

PRELIMINARY REPORT

EASTERN AREA CRUISE 14

14 June - 2 August 1967

Prepared by

Patrick J. Gould

PRELIMINARY REPORT  
EASTROPAC CRUISE NO. 30  
JUNE - JULY, 1967

Patrick J. Gould

During the period 14 June through 02 August, 1967, pelagic sea-bird observations were conducted aboard the R/V David Starr Jordan in the Eastern Pacific Ocean. This was in co-operation with EASTROPAC, an oceanographic investigation of the Eastern Tropical Pacific Ocean by the United States, Mexico, Ecuador, Peru, and Chile. These investigations have been discussed in detail in previous reports and will not be repeated here (See Woodward, Miscellaneous Pelagic Cruise No. 8, and Bulmer, Miscellaneous Pelagic Cruise No. 9).

Diurnal observations (sunrise to sunset) were conducted only while the ship was underway, although spot checks were frequently made while the ship was stationary or during nocturnal hours. Specimen collecting and photography were conducted where possible. A total of 3,072 miles and 299.3 hours of observations were completed in 46 days. In high density coastal areas accurate counts were impossible and only species identification and generalized population estimates were attempted. TABLE 1 presents a brief summary of these observations.

Density values are in birds per square mile (BSM) and were derived from previously established visual distances of different species groups. Frequency values are given in terms of sightings (one or more birds acting as a unit) per hour. Since the oceanographic data has not yet been completely analyzed, all correlations with the bird data are to be considered preliminary and subject to future revision.

The coverage area extended from San Diego, California, south to 03 degrees South, and from 119 degrees to 97 degrees West (See FIGURE 1). In this area over 28,000 birds of at least 46 species were recorded. Many different oceanographic and/or climatic conditions exist within this large area. Because of the preliminary nature of the oceanographic data, and with a concession to easy handling of data, I have divided the whole area into four rather heterogeneous parts; COASTAL, within 150 miles, or one days observation period, from the coast; NORTHERN PELAGIC, all areas over 150 miles from land north of 12 degrees North; COUNTERCURRENT, between 04 and 12 degrees North; SOUTHERN PELAGIC, between 03 degrees South and 04 degrees North.

COASTAL: 339 miles and 31.9 hours of observations were completed in this area. Thirty species were recorded with greatest numbers of both species and individuals occurring along the coast of southern Baja California from Vizcaino Bay south to Cape San Lucas. Northern Phalaropes far outnumbered any other species although Manx Shearwaters were abundant and of much more regular occurrence. TABLE 2 shows the distribution of all species observed within this area.



TABLE 1

## SUMMARY OF SEA-BIRD OBSERVATIONS OF EASTROPAC 30

Date	1200 Lat.	1200 Lon.	Water* Temp.	Miles	Hours	Density	Frequency	Number of Species	Most Abundant Species
15 June	29.8 N	117.8 W	16.7	115	10.1	2.09	17.3	9	Leach Petrel
16 "	25.2 N	118.2 W	18.0	116	10.2	0.32	3.6	6	" "
17 "	21.0 N	118.4 W	21.0	71	8.0	0.04	0.4	2	" "
18 "	18.3 N	118.3 W	24.7	93	8.5	0.04	0.5	2	" "
19 "	15.2 N	118.5 W	26.0	89	8.8	0.10	1.1	5	" "
20 "	12.2 N	118.6 W	27.4	80	7.5	0.44	4.5	7	" "
21 "	09.6 N	119.1 W	27.7	68	6.5	0.24	4.6	5	Wedge-tailed Shearwater
22 "	07.0 N	118.6 W	27.5	89	8.1	1.72	10.7	7	" " "
23 "	04.3 N	118.4 W	27.4	66	7.1	3.97	8.3	6	" " "
24 "	01.9 N	118.6 W	26.0	70	7.2	0.02	0.3	2	Leach/Harcourt Petrel
25 "	00.5 S	118.4 W	24.9	57	6.8	0.13	1.8	4	Juan Fernandez Petrel
26 "	03.0 S	118.7 W	25.7	48	5.3	0.16	2.8	3	" " "
27 "	03.0 S	115.2 W	25.3	73	7.6	0.38	5.4	6	Collared Petrel
28 "	02.9 S	111.9 W	25.1	59	6.4	0.33	3.8	3	" "
29 "	00.6 S	111.5 W	24.1	65	6.2	0.41	2.7	5	Leach/Harcourt Petrel
30 "	02.1 N	111.5 W	24.5	80	6.9	0.15	1.7	3	" " "
01 July	04.9 N	111.7 W	26.7	90	6.6	3.30	5.5	9	Wedge-tailed Shearwater
02 "	07.9 N	111.3 W	27.7	80	7.0	0.57	7.0	9	Juan Fernandez Petrel
03 "	10.6 N	111.4 W	28.3	74	7.1	1.18	9.3	8	Leach Petrel
04 "	13.3 N	110.5 W	28.2	84	7.2	0.61	3.2	3	Juan Fernandez Petrel
05 "	14.9 N	108.7 W	28.7	73	7.2	0.15	3.1	3	" " "
06 "	16.8 N	106.6 W	28.7	74	6.8	0.15	3.4	7	Wedge-tailed Shearwater
07 "	18.6 N	104.8 W	28.4	49	4.5	10.37	13.3	6	Brown Booby
08 "	Manzanillo, Colima, Mexico								
09 "	"	"	"	"	"	"	"	"	"

\* = Surface water temperature in degrees centigrade

TABLE 1 (cont'd)

## SUMMARY OF SEA-BIRD OBSERVATIONS OF EASTROPAC 30

Date	1200 Lat.	1200 Lon.	Water* Temp.	Miles	Hours	Density	Frequency	Number of Species	Most Abundant Species
10 July	17.3 N	101.5 W	?	40	3.7	4.90	8.4	6	Manx Shearwater
11 "	15.3 N	101.4 W	28.8	63	7.3	3.95	11.9	12	Juan Fernandez Petrel
12 "	13.1 N	103.3 W	28.2	74	7.4	0.91	10.3	11	" " "
13 "	10.6 N	104.6 W	28.4	81	7.5	3.29	14.9	5	" " "
14 "	07.6 N	104.6 W	28.3	73	7.8	0.73	9.2	6	" " "
15 "	04.8 N	104.5 W	27.4	62	6.5	0.47	3.2	5	" " "
16 "	02.3 N	104.7 W	25.9	71	8.2	0.02	0.2	2	White-throated Storm Petrel
17 "	00.5 S	104.7 W	21.7	73	7.6	0.08	0.8	2	Leach/Harcourt Storm Petrel
18 "	03.4 S	104.5 W	22.7	69	6.7	0.49	4.0	3	White-throated Storm Petrel
19 "	03.0 S	101.2 W	23.1	79	7.0	0.30	3.6	4	Leach/Harcourt Storm Petrel
20 "	02.9 S	097.8 W	21.7	44	5.0	0.58	4.0	4	Leach/Harcourt Storm Petrel
21 "	00.8 S	097.5 W	20.7	75	7.3	0.68	3.4	2	Leach/Harcourt Storm Petrel
22 "	02.2 N	097.6 W	23.8	76	7.3	0.81	7.5	6	Leach/Harcourt Storm Petrel
23 "	05.1 N	097.5 W	26.6	79	7.8	0.61	2.7	5	Socorro Petrel
24 "	07.8 N	097.4 W	27.3	55	5.5	1.33	18.2	13	Juan Fernandez Petrel
25 "	10.2 N	097.6 W	28.3	82	8.2	2.61	16.3	11	" " "
26 "	13.2 N	097.5 W	28.8	78	7.3	0.32	3.6	9	Manx Shearwater
27 "	16.0 N	098.2 W	29.9	23	2.8	0.45	3.2	6	Blue-faced Booby
28 "	17.7 N	102.2 W	30.0	0	0.0	-	-	-	-
29 "	20.0 N	105.8 W	29.3	44	4.1	3.47	14.9	9	Brown Booby
30 "	22.5 N	109.3 W	26.4	32	3.1	157.38	-	7	Northern Phalarope
31 "	25.0 N	112.6 W	22.2	15	1.5	-	-	15	" "
01 Aug.	28.2 N	115.1 W	19.9	21	2.1	-	-	10	Pink-footed Shearwater
02 "	31.8 N	116.9 W	-	-	-	-	-	-	-

\* = Surface water temperature in degrees centigrade



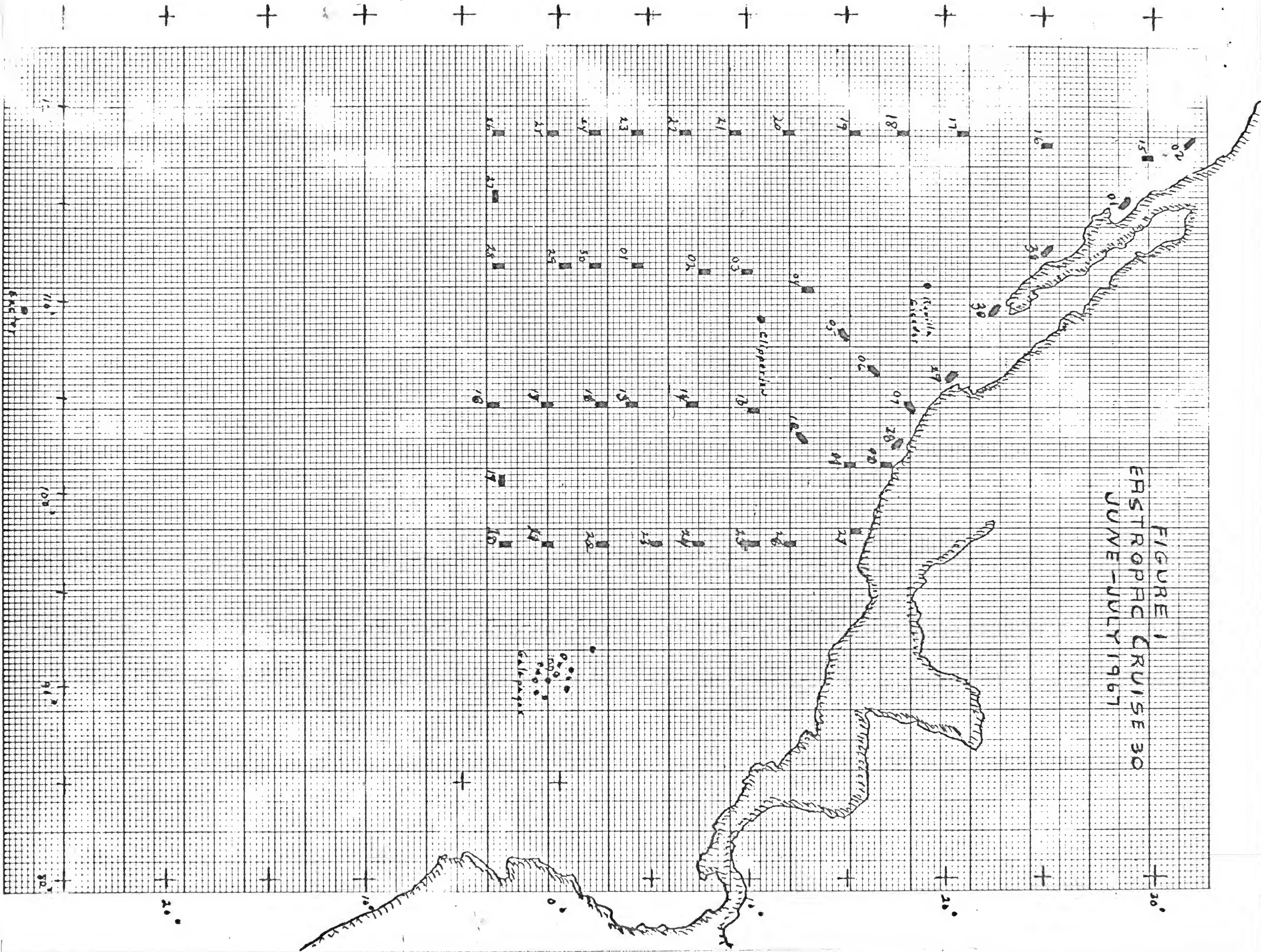


FIGURE 1  
EASTROPAC CRUISE 30  
JUNE-JULY 1967



TABLE 2

## DISTRIBUTION AND ABUNDANCE OF BIRDS WITHIN COASTAL WATERS

Species	Latitude:								Total
	29.8 N	28.2 N	25.0 N	22.5 N	20.0 N	18.6 N	17.3 N	16.0 N	
Black-footed Albatross	5*	0	0	0	0	0	0	0	5
Socorro Petrel	13	0	0	0	0	0	0	0	13
Least Petrel	4	0	0	0	0	0	0	0	4
Forster Tern	4	0	0	0	0	0	0	0	4
Red-billed Tropicbird	1	1	0	0	0	0	0	0	2
Xantus Murrelet	5	0	3	1	0	0	0	0	9
Sabine Gull	10	0	0	0	0	0	22	0	32
Leach Petrel	156	0	205	12	2	0	0	1	376
Manx Shearwater	6	88	215	1	74	103	92	2	581
? Cormorant	0	18	0	0	0	0	0	0	18
Western Gull	0	7	5	0	0	0	0	0	12
Heerman Gull	0	1	25	0	0	0	0	0	26
Ashy Petrel	0	25	0	1	0	0	0	0	1
Sooty Shearwater	0	55	0	0	0	1	0	0	56
Brown Pelican	0	10	20	0	0	+	0	0	30+
Northern Phalarope	0	68	10,000	5,000	25	0	0	0	15,093
Pink-footed Shearwater	0	160	100	0	0	0	0	2?	262
Pale-footed Shearwater	0	0	1	0	0	0	0	0	1
Cook Petrel	0	0	100	0	0	0	0	0	100
Red Phalarope	0	0	10	0	0	0	0	0	10
Royal Tern	0	0	45	0	0	0	0	0	45
Cassin Auklet	0	0	25	3	0	0	0	0	28
Black Petrel	0	0	11	2	23	0	0	0	36
Magnificent Frigatebird	0	0	4	0	1	+	1	1	7+
Pomarine Jaeger	0	0	0	0	1	0	0	0	1
Brown Booby	0	0	0	0	118	610+	33	0	761+
Blue-faced Booby	0	0	0	0	2	0	0	10	12
Blue-footed Booby	0	0	0	0	0	2?	0	0	2?
Laughing Gull	0	0	0	0	0	+	0	0	+
Sooty Tern	0	0	0	0	0	301	3	0	304

\* = number of birds observed or estimated

+ = present in Manzanillo Harbor

NORTHERN PELAGIC: 895 miles and 86.2 hours of observations were completed in this area. Twenty-one species were recorded, of which Juan Fernandez petrels were the most abundant. Average density was 0.56 BSM, but most of these birds were found within the warmer waters in the southeastern part. Only Black-winged Petrel, Socorro Petrel, and Red-tailed Tropicbird were more common in the western part (111°-119°W). TABLE 3 shows the species present and their comparative abundance.

TABLE 3

DISTRIBUTION AND ABUNDANCE OF BIRDS IN NORTHERN PELAGIC WATERS

<u>Species</u>	<u>No. Birds</u>	<u>Birds/Hour</u>	<u>Area of greatest Abundance</u>
Wedge-tailed Shearwater	80	0.93	13-15° N - 101-103° W
Sooty Shearwater	4	0.05	-
Manx Shearwater	21	0.24	13-15° N - 098-103° W
Herald Petrel	1?	0.01	-
Kermadec Petrel	3	0.03	-
Phoenix/Tahiti Petrel	1	0.01	-
Murphy Petrel	2	0.02	-
Dark-rumped Petrel	1?	0.01	-
Juan Fernandez Petrel	349	4.05	13-15° N - 101-103° W
Black-winged Petrel	7	0.08	12° N - 118° W
Leach Petrel	61	0.71	Random ?
Socorro Petrel	7	0.08	25° N - 118° W
Least Petrel	5	0.06	-
Sooty Petrel	5	0.06	13° N - 097° W
Red-tailed Tropicbird	6	0.07	12° N - 118° W
Red-billed Tropicbird	6	0.07	13° N - 097° W
Blue-faced Booby	10	0.12	13° N - 097° W
Brown Booby	8	0.09	15° N - 101° W
Red-footed Booby	5	0.06	15° N - 101° W
Pomarine Jaeger	5	0.06	13#17° N - 101-106° W
Sooty Tern	1	0.01	-

COUNTERCURRENT: 899 miles and 85.7 hours of observations were completed in this area. Twenty-five plus species were recorded with Juan Fernandez Petrels outnumbering all others. Average density was 1.71 BSM. In the western section birds were concentrated at the southern boundary, whereas in the eastern section they were concentrated at the northern boundary. This, plus the fact that some species (eg. Manx Shearwaters, Boobies, Frigatebirds) were found only in the eastern section, and that the Counter-current was not detectable in the eastern section, shows the effect that water masses may have on the distribution of pelagic birds. TABLE 4 shows the distribution and comparative abundance of birds within this area.

TABLE 4

## DISTRIBUTION AND ABUNDANCE OF BIRDS WITHIN THE COUNTERCURRENT

Species	Longitude:				Total Number Birds	Birds/Hour
	118.5 W	111.5 W	104.5 W	097.5 W		
Wedge-tailed Shearwater	481	351	111	39	982	11.5
Leach Petrel	5	54	23	3	85	01.0
Juan Fernandez Petrel	282	137	445	362	1,226	14.3
Phoenix/Tahiti Petrel	2	4	0	2	8	00.1
Black-winged Petrel	4	3	0	4	11	00.1
White-necked Petrel	2	1	0	0	3	-00.05
Red-tailed Tropicbird	2	7	0	0	9	00.1
Bulwer Petrel	1	0	0	0	1	-00.05
White-faced Petrel	1?	0	0	0	1?	-00.05
Kermadec Petrel	0	2	1	2	5	00.1
Harcourt Petrel	0	8	0	2	10	00.1
Pomarine Jaeger	0	1	0	11	12	00.1
Collared Petrel	0	4	2	0	6	00.1
Common Noddy Tern	0	1	1	0	2	-00.05
Sooty Tern	0	239	0	0	239	02.8
Giant Petrel	0	2	0	0	2	-00.05
Pale-footed Shearwater	0	1	0	0	1	-00.05
White-tailed Tropicbird	0	1	0	0	1	-00.05
Socorro Petrel	0	0	3	23	26	00.3
Manx Shearwater	0	0	4	9	13	00.2
Pink-footed Shearwater	0	0	7	2	9	00.1
Blue-faced Booby	0	0	3	7	10	00.1
Red-footed Booby	0	0	0	30	30	00.4
Sooty Petrel	0	0	0	4	4	00.1
Great Frigatebird	0	0	0	3	3	-00.05
Red-billed Tropicbird	0	0	0	1	1	-00.05
Christmas Shearwater	0	0	0	1	1	-00.05



SOUTHERN PELAGIC: 939 miles and 95.5 hours of observations were completed in this area. Eighteen species were recorded. Collared Petrels were the most abundant and wide spread species observed, although White-throated and Juan Fernandez Petrels were close seconds. Average density was 0.33 BSM, the greatest numbers occurring in the eastern section where large numbers of unidentified storm petrels were recorded. The effects of the Peru Current and the Galapagos Archipelago were noticable in the eastern section where water temperatures were lower and such species as Swallow-tailed Gull and Dark-rumped Petrel were found. Other species (eg. Wedge-tailed Shearwater and Juan Fernandez Petrel) were restricted to the warmer waters of the western section. TABLE 5 shows the distribution and comparative abundance of birds within this area.

TABLE 5

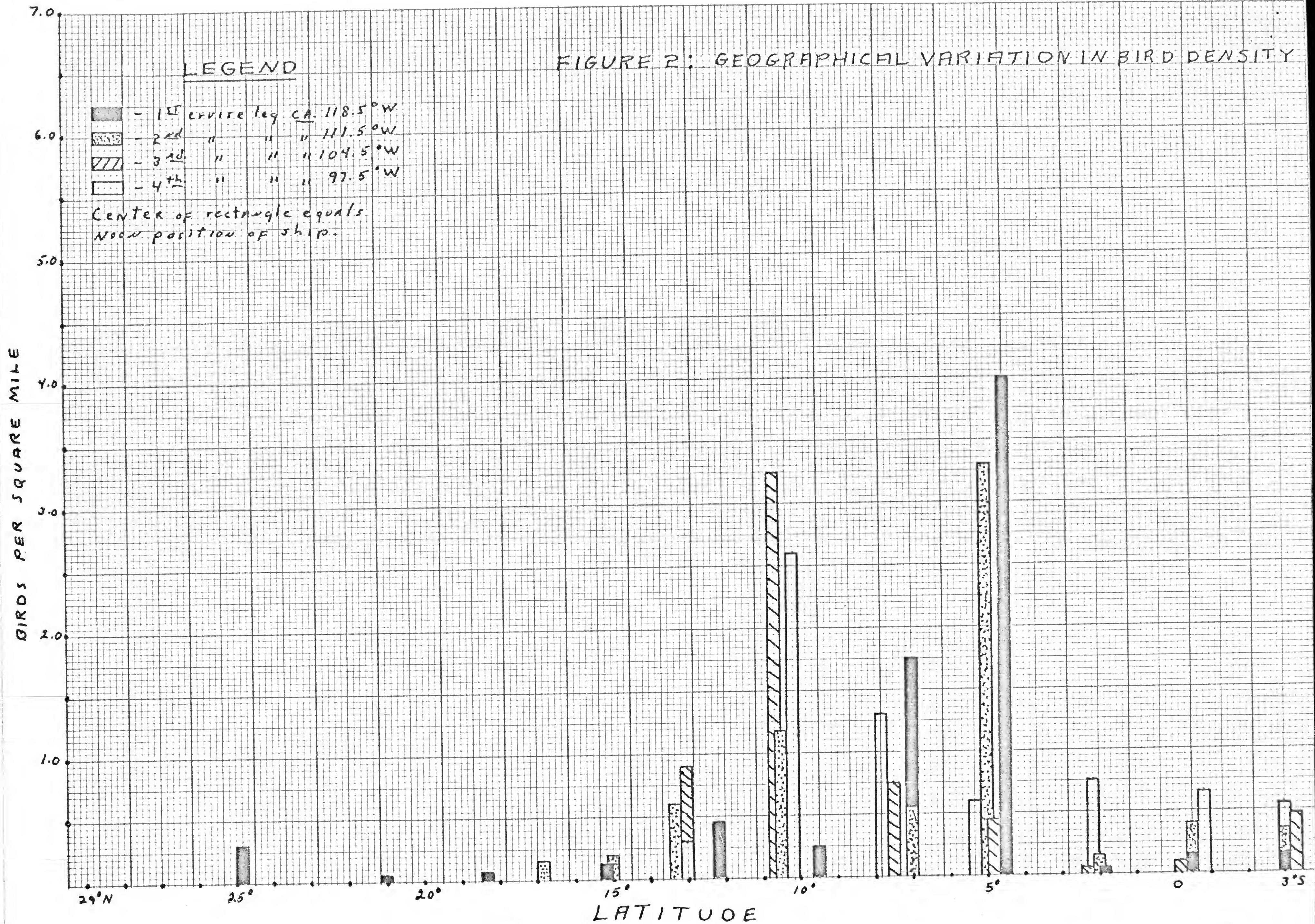
DISTRIBUTION AND ABUNDANCE OF BIRDS WITHIN SOUTHERN PELAGIC WATERS

<u>Species</u>	<u>West Half</u>	<u>East Half</u>	<u>Total Birds</u>	<u>Birds/Hour</u>
Juan Fernandez Petrel	35	0	35	0.4
White Tern	3	0	3	-0.05
Wilson/Elliott Petrel	4	0	4	-0.05
Wedge-tailed Shearwater	3	0	3	-0.05
Black-winged Petrel	1	0	1	-0.05
Cook Petrel	1	0	1	-0.05
Red-tailed Tropicbird	1	0	1	-0.05
Collared Petrel	33	16	49	0.5
Harcourt Petrel	20	16	36	0.4
White-throated Petrel	6	27	33	0.3
Murphy Petrel	0	1?	1?	-0.05
White-bellied Petrel	0	1	1	-0.05
Swallow-tailed Gull	0	1	1	-0.05
Dark-rumped Petrel	0	2	2	-0.05
Sooty Tern	0	2	2	-0.05
Socorro Petrel	0	11	11	0.1
Leach Petrel	0	19	19	0.2

Of the three pelagic areas discussed above, the Countercurrent had, by far, the largest concentration of birds and the greatest variety of species. This was particularly true at its' edges (See FIGURE 2). In the western section birds were most concentrated at the southern boundary, which was better defined in the oceanographic samples. This was the area of its convergence with the South Equatorial Current and the large avian density may be related to the mixing of waters in this area. In the eastern section greatest density was found at the northern edge, possibly due to the farther northward penetration of the colder waters of the Peru Current and also to the northward deflection and diffusion of the Countercurrent. It is also apparent that the middle section of the countercurrent had a greater density then either the Northern Pelagic Waters or the Southern Pelagic Waters.



FIGURE 2: GEOGRAPHICAL VARIATION IN BIRD DENSITY





## SPECIES ACCOUNTS

### DIOMEDEIDAE

Black-footed Albatross (Diomedea nigripes): 5. None showed any white except in the facial region. Birds followed the ship only on the first day out of San Diego and were last recorded at 28°19'N.

### PROCELLARIIDAE

Wedge-tailed Shearwater (Puffinus pacificus): 1,041. Seventy-six percent of the birds observed were dark-phase. One large concentration (200 birds) of light-phase, however, was observed at 05°24'N by 111°39'W in a flock with 100 dark-phase birds. This species was most abundant in the Countercurrent area with only three individuals recorded in the South Equatorial Current.

Pink-footed Shearwater (Puffinus creatopus): 269. Most abundant along the coast of central Baja California, although a few scattered individuals were recorded south to 07.4°N.

Pale-footed Shearwater (Puffinus carneipes): 2. One bird recorded in the Countercurrent and another along the coast of central Baja California.

Sooty Shearwater (Puffinus griseus): 61. Most abundant along the coast of central Baja California, but scattered individuals were recorded south to 13.8°N.

Christmas Shearwater (Puffinus nativitatus): 1. Recorded at 07°38'N by 097°26'W.

Manx Shearwater (Puffinus puffinus): 615. Primarily a bird of the coastal waters from at least northern Baja California south to Central Mexico. A few scattered birds were recorded at sea south to 09.0°N, their range apparently ending at the northern boundary of the Countercurrent.

Giant Petrel (Macronectes giganteus): 2. On 02 July, at 08°13'N by 111°17'W, two birds were flushed from the water about 500 yards from the ship. They flew away from the ship with heavy wing-beats and glides, but without arcing. They were easily larger than Black-footed Albatross and were very chunky with broader and shorter appearing wings. The color appeared to be a mottled brown with a lighter, but not white, head. The bill and underparts were not observed.

Herald Petrel (Pterodroma arminjoniana): 1?. One bird believed to be this species was observed at 25°13'N by 118°06'W.



Kermadec Petrel (Pterodroma neglecta): 6+2?. One intermediate and five dark-phase birds were all found north of 05°N with most in the Countercurrent region.

Phoenix/Tahiti Petrel (Pterodroma alba/rostrata): 10. Primarily a bird of the Countercurrent, but one sighting to the south (00°45'N) and one to the north (12°34'N).

Murphy Petrel (Pterodroma ultima): 2+1?. The birds at 14°22'N by 118°33'W and 01°53'N by 097°33'W were most likely this species while a third at 12°51'N by 103°36'W may have been.

Dark-rumped Petrel (Pterodroma phaeopygia): 2+1?. The two birds definitely identified as this species were both in the southeastern part of the South Equatorial Current nearest the Galapagos Islands and in the coldest waters of the whole area.

Juan Fernandez Petrel (Pterodroma externa): 1,613. The major population was centered in the Countercurrent, although some birds were found north to 14°22'N and south to 03°S. The vast majority of birds were undergoing heavy molt, especially noticable in the outer primaries. Of the 27 birds well observed south of the Countercurrent, however, 92.5 percent showed no apparent molt. This may indicate that birds south of the Countercurrent were late breeding adults or first year birds still moving north. Three birds, found between 06° and 07°N and 111° and 119° W were definitely the western form (P. e. cervicalis).

Black-winged Petrel (Pterodroma hypoleuca): 19. These birds were definitely the form P. h. nigripennis. Greatest numbers were found in the Countercurrent, but small numbers were recorded north to 14°27'N and south to the Equator. At no time, however, did they overlap the distribution of Collared Petrels (See FIGURE 3). The few individuals that were seen in the same water type as Collared Petrels were seen on different days.

Collared Petrel (Pterodroma leucoptera): 55. These birds were definitely the form P. l. brevipes. Their distribution was primarily throughout the South Equatorial Current, although a few were found north to 05°22'N. See FIGURE 3 for comparison with the preceeding species.

Cook Petrel (Pterodroma cookii): 101. All but one were recorded along the coast of southern Baja California. The one exception, possibly a migrant, was found at 03°S by 118°22'W.

Bulwer Petrel (Bulweria bulweri): 1. A single sighting at 07°04'N by 118°35'W.

#### HYDROBATIDAE

The difficulty in distinguishing between the various members of this group makes it nearly impossible to give a detailed and accurate

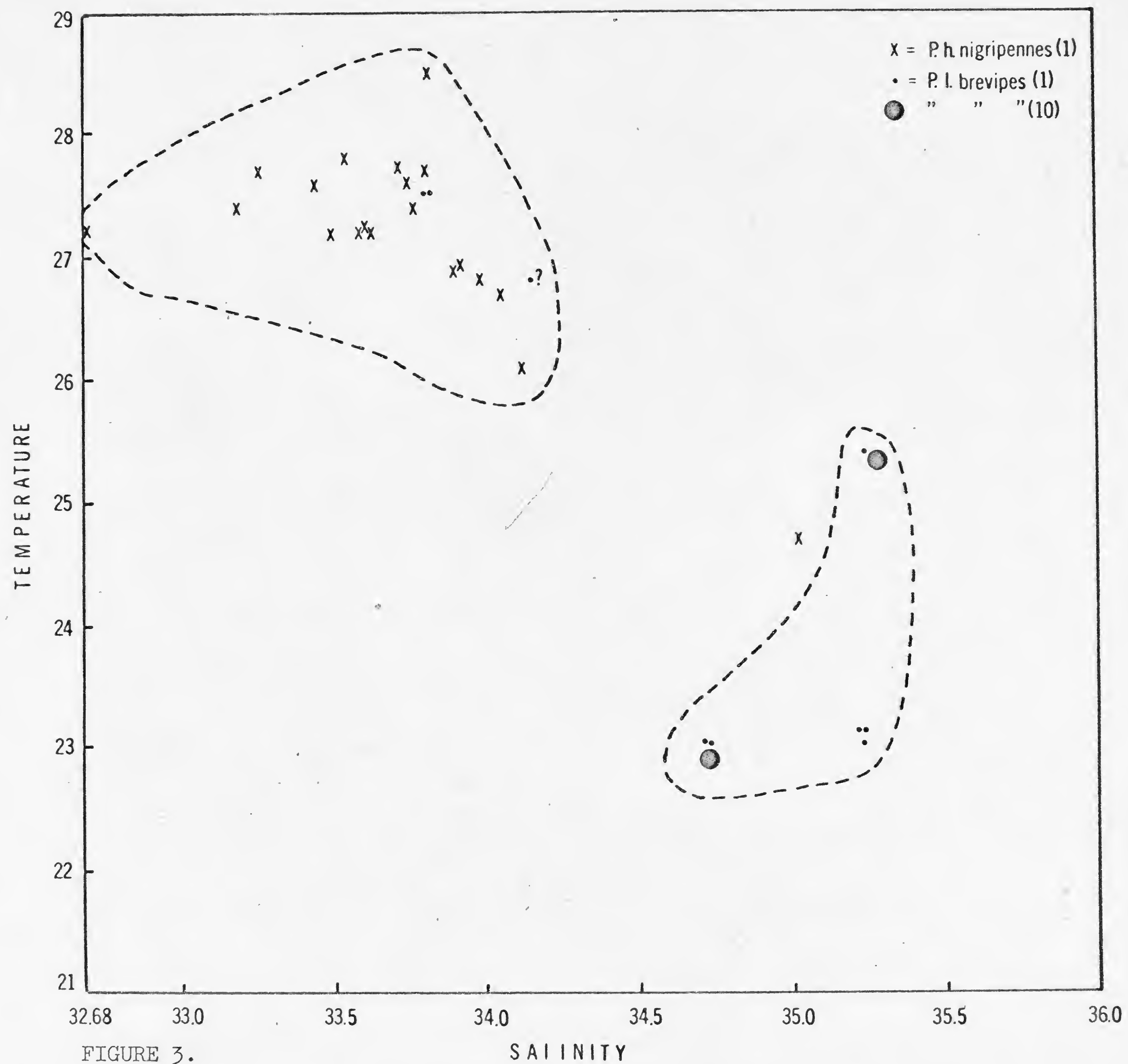


FIGURE 3.

Temperature-Salinity Preference of *Cookelaria*  
June-July 1967

analysis of their density and distribution. The following accounts should thus be considered open to serious question, but are the "best guess" at the present time.

Leach Petrel (Oceanodroma leucorhoa): 380. Fifteen percent of all birds identified as this species belonged to the dark-rumped form (Socorro Petrel). The species as a whole was most abundant in coastal waters near their breeding islands, but individuals were found scattered throughout the entire area. Socorro Petrels had a second area of concentration from 03°S to 15°N along Longitude 097.5°W. A large number (85+) of "white-rumped storm petrels" in this latter area may have been this species or might have been Galapagos Petrels (Oceanodroma tethys) or Harcourt Petrels (Oceanodroma castro).

Harcourt Petrel (Oceanodroma castro): 46. Apparently most abundant in the South Equatorial Current, but probably present in small numbers at least to 10°N. The collection of one specimen at 00°54'N by 097°31'W confirms their presence in this area.

Sooty Petrel (Oceanodroma markhami): 9. These birds were observed only along Longitude 097.5°W between 07° and 13.5°N. In color and shape they appeared identical to Socorro Petrels, but their flight pattern was more erratic and they were almost twice as large.

Ashy Petrel (Oceanodroma homochroa): 31. Found only in coastal waters off of central Baja California.

Black-Petrel (Loomelania melania): 36. Coastal waters of Baja California and Mexico from 20° to 25°N.

Least Petrel (Halocyptena microsoma): 9. Most abundant in the general area of Guadalupe Island, although two birds were found at sea between 12.6° and 15.7°N.

Wilson/Elliott Petrel (Oceanites oceanicus/gracilis): 4. All found within the warmer western waters of the South Equatorial Current.

White-throated Letrel (Nesofregetta albigularis): 33. Found throughout the South Equatorial Current, but most abundant in the colder eastern area.

White-bellied Petrel (Fregetta grallaria): 1. This bird had a well defined dark throat and pure white belly. It was observed at 01°42'N by 104°41'W.

White-faced Petrel (Pelagodroma marina): 1?. One brief sighting of a bird which might have been this species occurred at 07°16'N by 118°31'W.



## PHAETHONTIDAE

Red-billed Tropicbird (Phaethon aethereus): 9. All but one were observed within ca. 250 miles of the coast. The exception was also the farthest south and was recorded at 10°05'N by 097°33'W.

Red-tailed Tropicbird (Phaethon rubricauda): 16. In contrast to the above species all sightings, with one exception, were over 250 miles from the coast. Apparently this species is most abundant in, or just north of, the Countercurrent. One bird, however, was recorded at 03°S by 115°W.

White-tailed Tropicbird (Phaethon lepturus): 1. One individual was recorded in the countercurrent at ca. 10°N by 104.6°W.

## SULIDAE

Blue-faced Booby (Sula dactylatra): 31. All but five were within 500 miles of the coast of southern Mexico, and three of these were within 300 miles of Clipperton Island. The species was found south to 04°16'N and west to 109°W. The most pelagic of the individuals recorded were all first-year birds.

Brown Booby (Sula leucogaster): 761. Strictly a coastal species found from 20°N south at least to Acapulco, Mexico.

Red-footed Booby (Sula sula): 43. Restricted to eastern areas (east of 105°W). One light-phase adult was recorded at 18°05'N by 105°W, and one sub-adult light-phase at 09°30'N by 097°33'W. The rest were all first year birds.

Blue-footed Booby (Sula nebouxii): 2?. Several birds were seen in the coastal waters off Manzanillo, Colima, Mexico which may have been this species.

## PHALACROCORACIDAE

Eighteen cormorants were observed in the waters around Cedros Island, Baja California. All appeared to be Brandt Cormorant (Phalacrocorax penicillatus) although none were observed close enough for positive identification.

## FREGATIDAE

Magnificent Frigatebird (Fregata magnificens): 7. All recorded along the coast from 16° to 25°N.

Great Frigatebird (Fregata minor): 3. Although only three individuals were identified, 24 others were recorded within the Countercurrent area, with maximum density along Longitude 097.5°W. All of these probably belonged to this species.

## PHALAROPODIDAE

Northern Phalarope (Lobipes lobatus): 15,093. All were along the coastal area from 20° to 28°N with maximum density at 25°N.

Red Phalarope (Phalaropus fulicarius): 10. Observed along the coast only at 25°N, but many were probably overlooked in the large concentrations of Northern Phalaropes in other areas.

## STERCORARIIDAE

Pomarine Jaeger (Stercorarius pomarinus): 15. 73 percent were dark-phase birds. All but one were within 300 miles of the coast. The exception was at 07°10'N by 111°24'W.

## LARIDAE

Laughing Gull (Larus atricilla): #. Scattered birds were observed near and within the harbor at Manzanillo, Colima, Mexico.

Western Gull (Larus occidentalis): 12. Observed only along the northern coast of Baja California from Cedros Island north.

Heerman Gull (Larus heermanni): 26. Observed only along the northern coast of Baja California from Cedros Island north.

Sabine Gull (Xema sabini): 32. Two, apparently migratory, flocks. One of 10 birds at ca. 28°N and one of 22 birds at ca. 17°N both near the coast.

Swallow-tailed Gull (Creagrus furcatus): 1. In the colder water of the South Equatorial Current at 02°39'N by 097°34'W. This was just over 300 miles WNW of the Galapagos Archipelago.

Forster Tern (Sterna forsteri): 4. Observed only along the coastal waters of Southern California and northern Baja California.

Royal Tern (Thalasseus maximus): 45. Observed only along the coastal waters of Southern Baja California.

Sooty Tern (Sterna fuscata): 546. Only 3 feeding flocks were found, all containing immature birds. One of 225 at 05.4°N by 112°W; one of 12 at 05.5°N by 111.6°W; and one of 300 at 18.6°N by 104.9°W. Scattered birds were recorded in areas near the above concentrations, and one bird each was recorded at 00°13'N by 104°39'W (an immature), and 01°26'N by 097°32'W (an adult).

Common Noddy Tern (Anous stolidus): 2. Both were within 300 miles of Clipperton Island.

White Tern (Gygis alba): 3. Recorded in the South Equatorial Current at 03°S and from 114°47'W to 115°53'W.

ALCIDAE

Xantus Murrelet (Endomychura hypoleuca): 9. Throughout the coastal waters of Baja California.

Cassin Auklet (Ptychoramphus aleutica): 28. Throughout the coastal waters of southern Baja California.



# MAMMALS

Common Dolphin (Delphinus delphis bairdi): 25. This species was identified in waters off the coast of southern Baja California, and may have been present as far south as Manzanillo Harbor.

Spotted Dolphin (Stenella graffmani): 5. Definitely identified only in the area of Manzanillo Harbor where a few played around the bow of the ship as it entered the harbor.

Pilot Whale (Globicephala melaena): 41. Recorded in coastal waters of southern Mexico from ca. 18° to 20°N, and in the Counter-current from ca. 105° to 97°W.

Sperm Whale (Physeter catodon): 1. One small (ca. 8 feet) individual drifted by the ship at 10°45'N by 104°34'W.

Fin Whale (Balaenoptera physalus): 3. Three individuals were observed in the South Equatorial Current at 00°25's by 97°30'W. All were large (75+ feet) adults moving southwest.

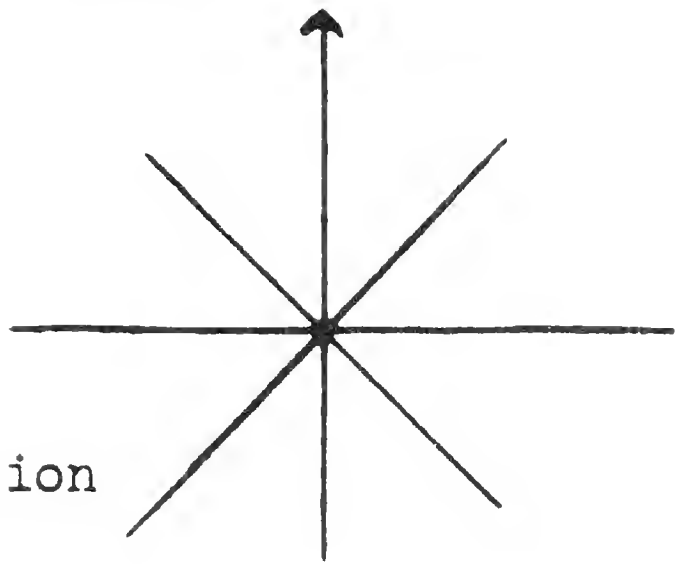
Sea Lion (Zalophus californicus): 1. An immature male Sea Lion was tentatively identified as belonging to this species as it followed the ship at 2400 hours on 22 July. The location was 03°36'N by 97°35'W.

TABLE 6 gives a summary of all Mammal sightings during the cruise.

TABLE 6

## MAMMAL SIGHTINGS FOR EASTROPAC 30

Date	Porpoise/ Dolphin	Spotted Dolphin	Common Dolphin	Whale	Pilot Whale	Sperm Whale	Fin Whale	Sea Lion
16 June	75	0	0	0	0	0	0	0
17 June	30	0	0	0	0	0	0	0
30 June	0	0	0	1	0	0	0	0
07 July	200	5	0	0	20	0	0	0
13 July	20	0	0	0	0	1	0	0
14 July	0	0	0	0	12	0	0	0
17 July	25	0	0	0	0	0	0	0
21 July	0	0	0	0	0	0	3	0
22 July	0	0	0	0	0	0	0	1
23 July	50	0	0	0	0	0	0	0
24 July	30	0	0	0	4	0	0	0
29 July	40	0	0	0	5	0	0	0
30 July	0	0	0	1	0	0	0	0
31 July	50	0	25	0	0	0	0	0
Total	520	5	25	2	41	1	3	1



Ship  
Direction

R/V DAVID STARR Jordan  
SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

Patrick Gould

Date 14 June 1967

Pg. # 1

SPECIMEN

or

TIME SPECIES # DIR. BAND NO. REMARKS

1600  
to  
sunset

scattered observations throughout  
period - no regular times or schedule  
all observations of birds in inner  
San Diego Harbor, most while tied  
up refueling. There is a live boat  
holding area near here which  
has attracted many birds, especially  
Gulls.

Gulls 500  $\pm$  50 at least <sup>40</sup> % were  
Western Gulls, but there were  
smaller California/King-billed Gulls  
and probably a few Herring Gulls -  
No Glaucous-winged or Herman's Gulls.

Caspian Terns 5  $\pm$  1

Least Terns 15  $\pm$  5

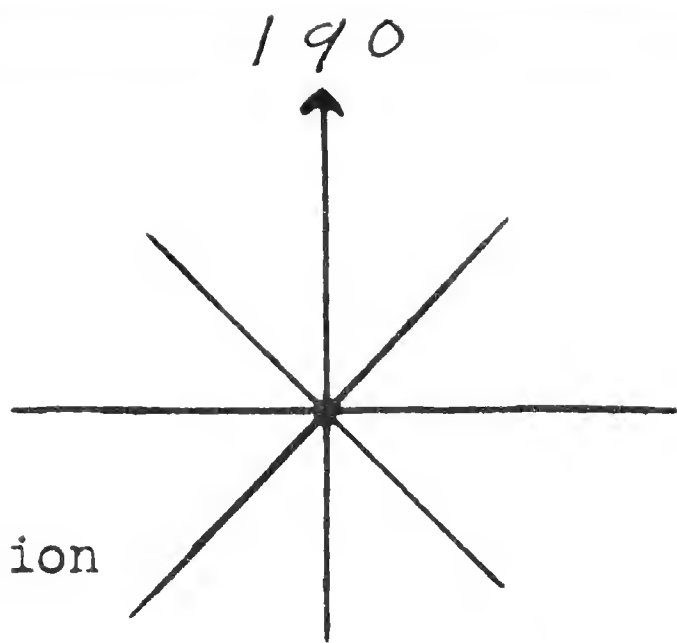
Double-crested Cormorants 25  $\pm$  3

Brown Pelican 1

Forsters Tern / Common Tern 3  $\pm$  1

Cliff Swallow 1





Ship  
Direction

SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

Pit Gould

Date 15 June 1967  
Pg. # 1

SPECIMEN  
or

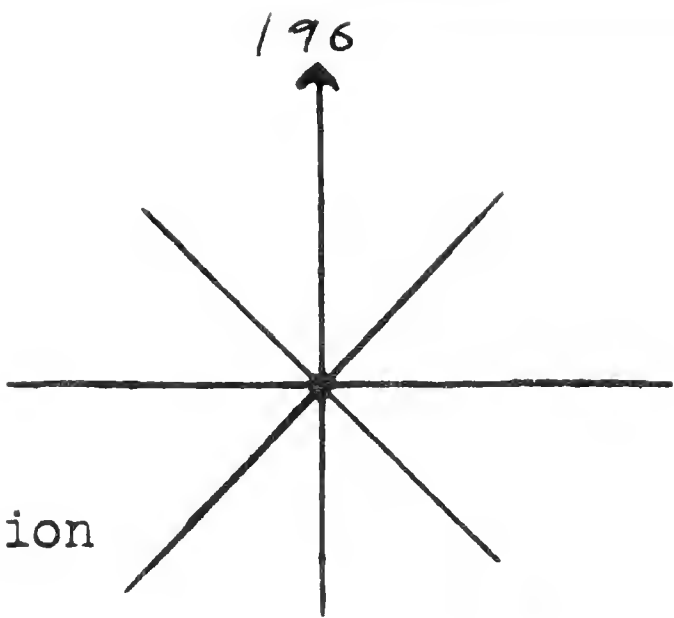
sky heavy overcast

TIME SPECIES # DIR. BAND NO. REMARKS begin obs. 0535 sun 0545

0555	<del>Forster</del> Tern	1	☉	—	searching, summer plumage - Ad. some bird following behind ship at 0602
0605	Tern	1	v	—	probably same kind as above -
0610	Leach St. Pet	1	nmw	searching	(The light is very poor)
14	<del>Leach St. Pet</del>	1	w		
16	"	1	w		
17	Leach St. Pet	1	☉		
18	Black-footed Albatross	1			Feared
21	Leach St. Pet	1			black & white - following ship at 0627, again at 0650 - has missing end of a few 1's
22	Storm Pet	1	SW		searching
23	Leach Petrel	1	nmw		searching
25	Storm Pet	1			distinct but behavior identical to above Leach's.
28	Leach Pet.	1	nmw	searching	
41	Leach Pet	1	nmw	search.	
44	St. Pet	1	nmw	"	flashed like Leach Pet.
45	St. Pet	1	nmw	"	flashed like Leach Pet
0712	Forster Tern	3	NE		
0716	Leach Pet	1	nmw	Search	
17	Leach Pet	1	nmw	"	
18	Leach Pet	1	nmw	"	
25	Red-bell Tropicbird	1	SW		black in plumage, bill very red
26	Leach Petrel	1	nmw	search	
30	Tern	1	NE		Common/Forster Tern
0740 to 0752 Breakfast Break					
0753	Leach Petrel	2	nmw	search	feeding - within 20 or few seconds -
0757	" "	1	nmw	search	

all storm (this  
pose)  
petrels seem  
to be generally  
moving to west

Ship  
Direction



SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

Pat Jones

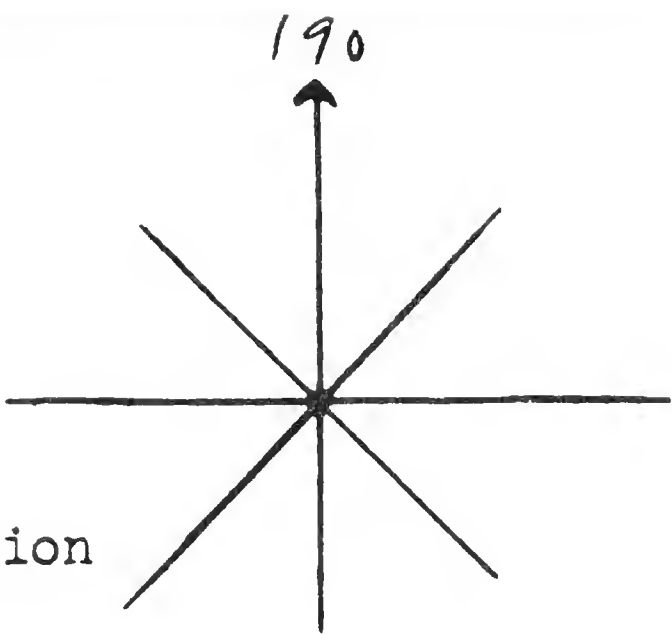
Date 15 June 1967  
Pg. # 2

SPECIMEN  
or

TIME SPECIES # DIR. BAND NO. REMARKS

0800	Black-foot Albatross	2	Follow ship		new bird in duck phase and beginning molt - inner primaries new - outer ones old.
0820	"	3	Follow ship		
0827	Leach Petrel	1	SE		new bird duck phase, all primary lost <sup>new</sup>
0845	Leach Petrel	1	SE		
0900	Leach Petrel	1	SE		very little white on wings
0901	Leach Petrel	1	SE		
0909	Storm Petrel	1	SE		
0910	" "	2	SE		albatross #2 & 3 still behind ship
0920	Leach Petrel	1	SE		albatross #1 not seen since 0830
0920			SE	feeding water of ship	all 3 flew like Leach's Petrels
0930	Storm Petrel	1	SE		all 3 Black-foot Albatross now behind ship
37	" "	1	SE		including #1.
40	" "	1	SE		Probably Leach's
41	" "	1	SE		all flew - looked like Leach's but too far out to see white wings.
46	Leach Petrel	1	SE		flew like Leach's
46	Storm Petrel	1	SE		
47	Leach Petrel	1	SE		
56	" "	1	SE		
1001	SOCORRO Pet.	1	SE		grey wings
1002	Socorro Pet.	1	SE		
1004	Leach Petrel	4	SE		
1005	" "	1	SE		
1006	Mutton Murrelet	3	on H2O		done as ship approached
1008	Leach Petrel	2	SE		
1009	" "	1	SE		
1010	" "	1	SE		
1014	Storm Petrel	1	SE		
1018	Leach Petrel	1	W		
1020	" "	1	SE		
1020	" "	1	SE		





Ship  
Direction

SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

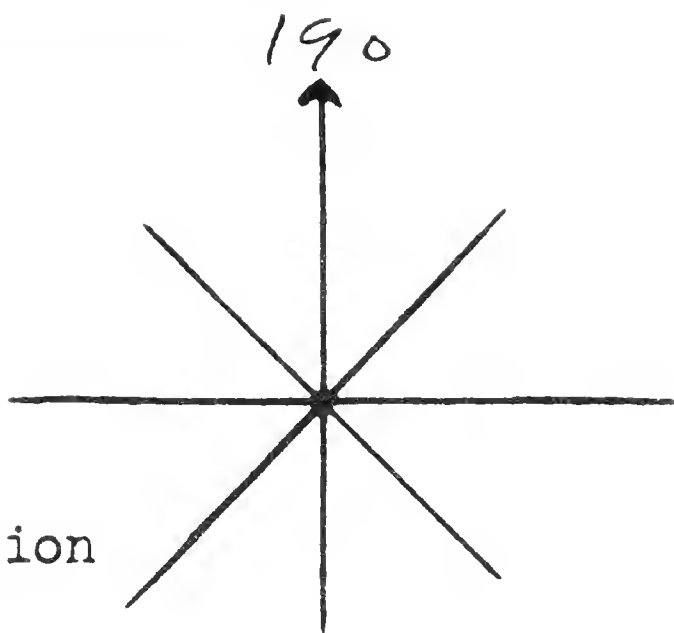
Pat Gould

Date 15 June 1967  
Pg. # 3

SPECIMEN  
or

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
1023	Leach Petrel	1	⊙		
1027	" "	1	E		
1030	" "	1	N		
1034	<del>Sooty</del> <sup>Soloporo</sup> Petrel	1	⊙		well seen and observed with Leach's. bird was slightly smaller, with body & wing appearing slimmer. Flight almost identical, ring can color with back. It could have been <del>Sooty</del> Petrel, but the more slender appearance points again to Leach's.
1036	Leach Petrel	1	⊙		
1040	" "	1	⊙		
1040	Sooty Petrel	1	⊙		
1043	Black-footed Albatross	4	200m SW		
1043	NO				Secured watch at 1043
1305	OBS.				There are 4 Black-footed Albatross now following ship.
1305	Leach Petrel	1	⊙		Resumed watch at <del>1043</del> 1305
1306	" "	1	⊙		
1307	" "	1	⊙		
1307	" "	1	⊙		
1308	" "	3	on H <sub>2</sub> O		
1310	" "	1	⊙		
1310	" "	1	N		
1315	" "	1	⊙		
1317	" "	1	⊙		
1318	<del>Sooty</del> <sup>Soloporo</sup> Petrel	1	⊙		
1320	Leach Petrel	1	⊙		
1322	" "	1	→W		
1324	" "	2	→W		
1326	" "	1	⊙		
1327	" "	1	⊙		
1327	" "	1	→W		
1330	" "	1	→W		
1333	" "	1	→W		
1335	" "	1	→W		
1336	" "	1	→W		

Ship  
Direction



SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

P. Gould  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Date

15 June 1967

Pg. #

4

SPECIMEN

or

TIME SPECIES # DIR. BAND NO. REMARKS

1338	Leach Petrel	1	→W	
1340	" "	1	→N	
1343	" "	1	?	
1343	" "	1	?	
1344	" "	1	⊙→W	
1344	" "	2	⊙→W	
1347	Storm Petrel	1	SW	
1348	Leach Pet	1	→N	
1351	" "	1	→W	
1352	" "	1	→W	
1353	Black-ventral Shearwater	1	N	
1358	Leach Pet	1	→W	
1359	Leach Pet	1	→W	
1359	Leach Pet	2	→W	
1400	Leach Pet	3	→W	
LEAST	Least Pet	1	→W	
1405	Leach Pet.	1	→W	
1410	" "	1	→W	
1410	" "	1	→W	
1410	" "	1	⊙	feeding
1411	" "	1	→W	
15	Storm Pet	1	→	
17	Leach Pet	1	→N	
17	Storm Pet	1	→N	
17	" "	1	→N	
22	Leach Pet	1	→NW	
23	Storm Pet	1	⊙	
30	Leach Pet	1	→W	
30	" "	1	→W	
31	" "	1	→W	
34	Storm Pet	1	→E	
36	Leach Pet	1	→W	
36	" "	1	→W	
38	" "	1		

traveling with much gliding

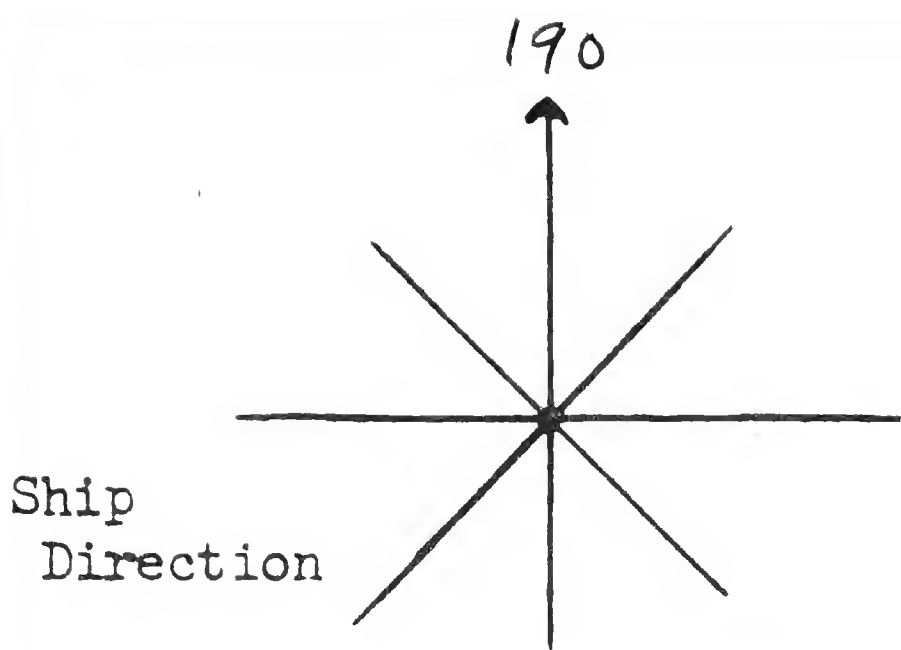
Traveling - smaller than wedge-tail, white below definite brown above - underwing white with distinct, but hozy brown border gradually fading into the white. wing beats rapid stiff and fairly shallow, interspersed by long glide

quite a bit smaller bird, wing beats much more rapid and a faster more darting flight than Leach's, tail wedge-shaped. This is not ~~what~~ like the birds I have been calling Ashy.

} probably Leach's

probably Leach's





Ship  
Direction

SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

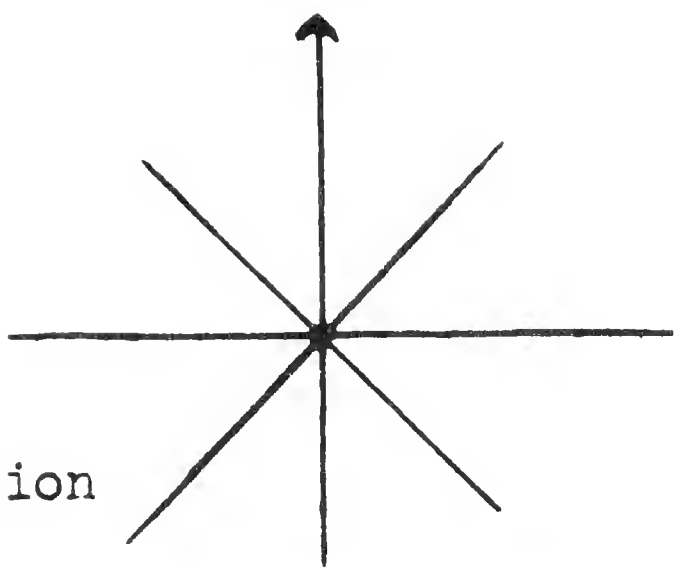
*P. Gould*

Date *15 June, 1967*  
Pg. # *5*

SPECIMEN  
OR

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
1440	Leach Petrel	10	on H <sub>2</sub> O		roft of Storm Petrel flew as ship approached
1443	Storm Petrel	1	→W		
53	Leach Pet	2	→W		
53	" "	1	→W		
54	Leach Pet	3			
54	Ashy or Swallow	1	⊙		flew and looked identical to Leach's except that entire wing differently brown
54	Leach Pet	1	→W		
56	" "	1	→W		
59	Storm Pet	1	→		
1501	Blue & - footed Albatross	1			may be red # 2
1503	Leach Petrel	1	→W		
1503	Storm Pet	1	→S		
1506	Leach Pet	1	→W		
1507	Leach Pet	7	⊙		
1508	Leach Pet	1	⊙		
1508	" "	1	⊙		
1508	" "	1	⊙		
1510	" "	1	→		
1514	" "	1	→N		
1515	Storm Pet	1	⊙		
1521	Black-vented Shearwater	2	SW		
1521	Leach Petrel	1	→W		
1526	Leach Petrel	3			
1530	Ashy or Swallow	1			identical to Leach's but with brown wing - wing beats may be somewhat deeper
1533	" "	4	⊙		
1535	" "	1	⊙		
1538	Storm Pet	1	N		
1542	Leach Pet	2			
1542	Ashy or Swallow	2	on H <sub>2</sub> O		

Ship  
Direction



SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

P. Gould  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Date 15 June 1967  
Pg. # 6

SPECIMEN  
or

TIME SPECIES # DIR. BAND NO. REMARKS

1547	Leach Pet	1	E	
1555	<del>Sooty</del> <del>Sooty</del> Sooty	1	SW	
1600	Storm Pet	4		
	(Leach?)	3	on H <sub>2</sub> O	
1604	Leach Pet	2	⊙	
1607	" "	1	N	
1607	Storm Pet	1	W	
1612	Leach Pet	7	on H <sub>2</sub> O	

1 Black-foot albatross still following ship  
partially

ca 1605 we passed out of the  
area of completely overcast skies into  
partly cloudy, blue skies with sun -  
water now blue rather than grey -

1615	NO			
1650	065			

DINNER

1615 - two Black-footed albatross (one 1 hr)  
now following ship.

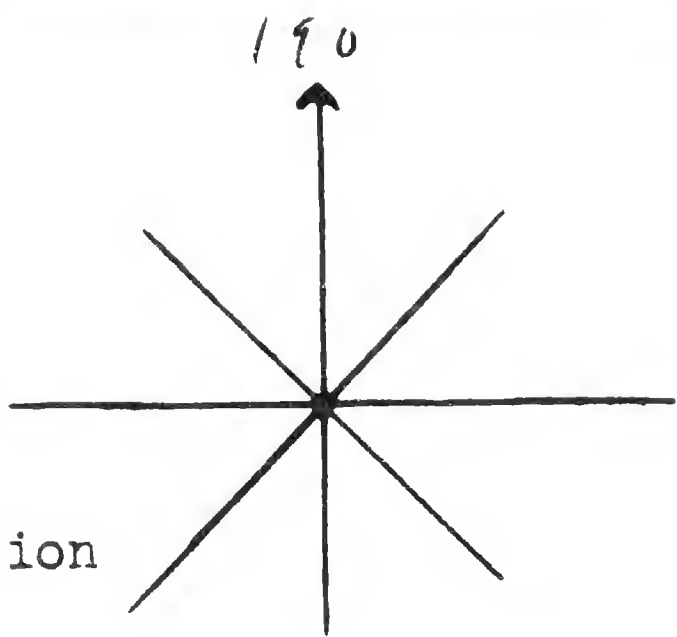
1650 - 3 Black-footed albatross (all 1 hr)  
now following ship

1706	<del>Sooty</del> <del>Sooty</del> Sooty	2	N	
1707	Leach's Pet.	1	N	
1709	" "	1	E	
1709	" "	1	⊙	
1712	<del>Sooty</del> Sooty	1	N	
1712	Leach Pet	1	NIE	
1714	<del>Sooty</del> Sooty	1	feeding	
1717	Storm Pet	1	N	
1718	Leach Pet	3	NIE	
1719	Storm Pet.	2	⊙	
1719	" "	1	⊙	
1721	" "	1	N	
1723	dark-vaned stormwater	1	W	
1725	Storm Pet	1	N	
26	" "	1	N	
27	" "	1	N	

or dark white  
rump dark grey but centrally with  
brown of back -



Ship  
Direction



SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

P. Gould

Date 15 June 1967  
Pg. # 7

SPECIMEN

or

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
1729	Storm Petrel	1-	S		
1732	" "	1-	⊙		
1735					4 Black-footed albatross now following ship. however, none are older than #1 (very worn rather, older age) so there have been at least 5 birds today. One of these 4 does look like #2 of this morning
1755	Tropicbird?	1-			in distance looked all white.
1800	Xantus munitz	2-	W		traveling fast
1808	Storm Petrel	2-	E		Probably feeds
1810	Sabine's Gulls	10-	N to NW		
1816	Xantus munitz	2-	W		traveling fast
1827	Least Petrel	1-	W		
1840	Storm Petrel	1-	W		
1845	Least Petrel	1-	SW		

observation resumed at 1900  
sun has gone behind large dark clouds

5 Flocks (41 birds)

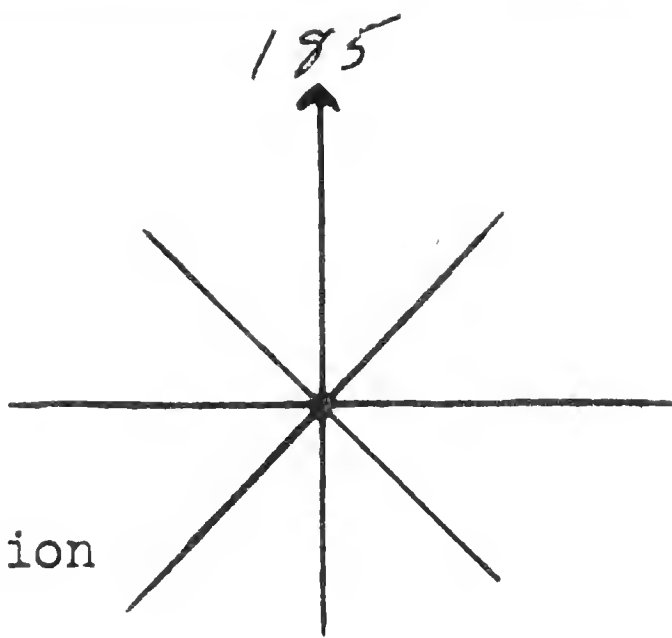
1900  
0810

3 on H<sub>2</sub>O

1 tired

1 searching

Ship  
Direction



SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

Pet Gould

Date 16 June  
Pg. # 1

SPECIMEN

OR

TIME SPECIES # DIR. BAND NO. REMARKS Begin observations - 0555' sun 0558

The sky is completely overcast with dark clouds just as yesterday. it is dark and rather cool.

0627 Kermadec? Petrel 1 NW

Too far out + not enough light to be sure. definitely a larger size, Pterodroma with white bellie and much dark on underwing. Thought I caught sight of white patch several times on underwing, but I'm not sure. Kermadec is best possibility

0645 Cook's <sup>Black-wing</sup> Petrel 1 NE

0654 Sooty Shearwater 1 NE

-good views.

0725 Leach Petrel 1 m H<sub>2</sub>O

good view close to ship - molt in progress. but pearl grey (new feathers) head brownish (old feathers) but not black, underwing with dark border but not as dark nor as wide as a Black-wing petrel? - <sup>under light</sup>

0726 NO  
0741 065 - BREAKFAST

0745 Cook's <sup>Black-wing</sup> Petrel 1 N

0745 ~~Leach~~ <sup>Socorro</sup> Petrel 1

0800 Cook's <sup>Black-wing</sup> Petrel 1

0801 Leach Petrel 1 NW

0802 Storm Petrel 1

0803 " " 1

0803 Leach Petrel 1

0807 " " 1

0808 Storm Petrel 1

0814 " " 1

0815 Leach Petrel 1

0820 Bird 1 E

0825 Socorro Petrel 1 NW

0830 Least Petrel 1 NE

0833 Storm Petrel 1

0835 Leach Petrel 1

0901 Herald Petrel 1 W

0946 Least Petrel 1 NE

head, neck + back concolor. underwing border brown as on bird at 0645. This border is broader than I thought it should be, but it doesn't seem as sharply outlined as Black-wings.

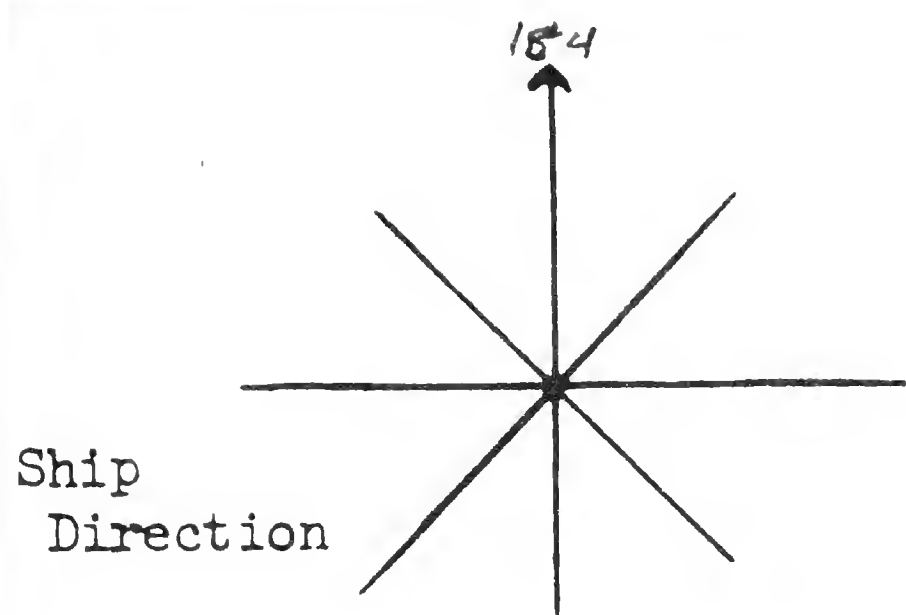
looks like Leach's

" " "

in distance, low, fast, direct.

flopping with deep loose wing beat, seldom gliding, very little diving, wrist held bent. white bellie, center of underwing whitish, broader near body than at tip





SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

P. Gould

Date 16 June 1967

Pg. # 2

SPECIMEN

OR

TIME SPECIES # DIR. BAND NO. REMARKS

0952 Leach Petrel 1 →W

0958 Socorro Petrel 1 →S

1001 Storm Petrel 1 →NE

1015 Socorro Petrel 1 @

1023 Leach Petrel 1 →SW

1024 Socorro Petrel 1 →W

1028 ~~Leach Petrel~~ 1 on H<sub>2</sub>O

1033 Leach Petrel 1 →S

~~Feather~~ one small white spot on each side of rump - tail slightly forked - flew like Leach's, but appeared somewhat smaller

very small white patch on each side of rump

1115 NO

1200 OBS.

1315

1324 Leach Petrel 1 →W

1328 " " 1 Feeding

1328 " " 1 →NW

1330 Flock of black-winged 9

Cook's Petrel 2

Leach Petrel 3

Storm Petrel 3

searching birds with over small area. dispersed as boat approached. One Cook's lit on the water. No feeding observed. No sign of fish or other food or predatory fish observed

1330 Leach Petrel 1 S

1424 Cook's Petrel? 1 on H<sub>2</sub>O

~~Juan Fernandez Petrel?~~

Too far off to be sure but it looked big, but also appeared to have dark body on under wing.

1545 Spanish White-bellied Porpoise

large school

~~75±25~~

75±25

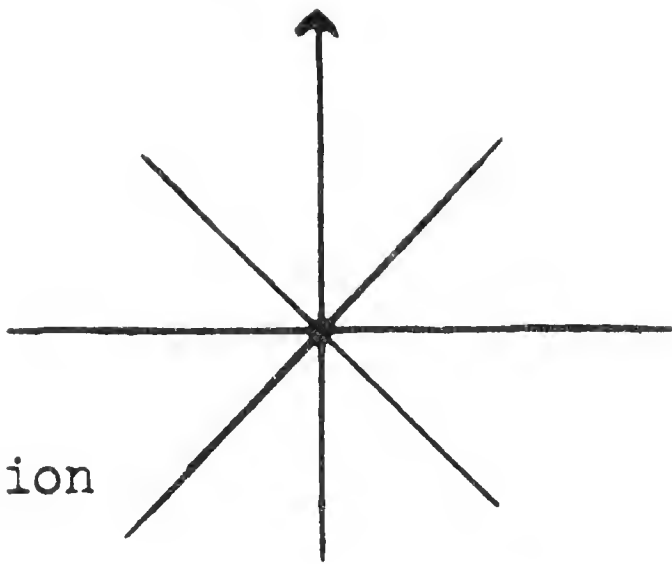
WSW

W

identified by mals.

very small porpoise jumping completely out of water - looked all dark at distance, dorsal fin large and curved backward. The school was quite spread out and there were perhaps 15 or 20 jumping at any one time.

183



Ship  
Direction

SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

P. Gould  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Date 16 June 1967  
Pg. # 3

SPECIMEN  
or

TIME SPECIES # DIR. BAND NO. REMARKS

1615  
to  
1655

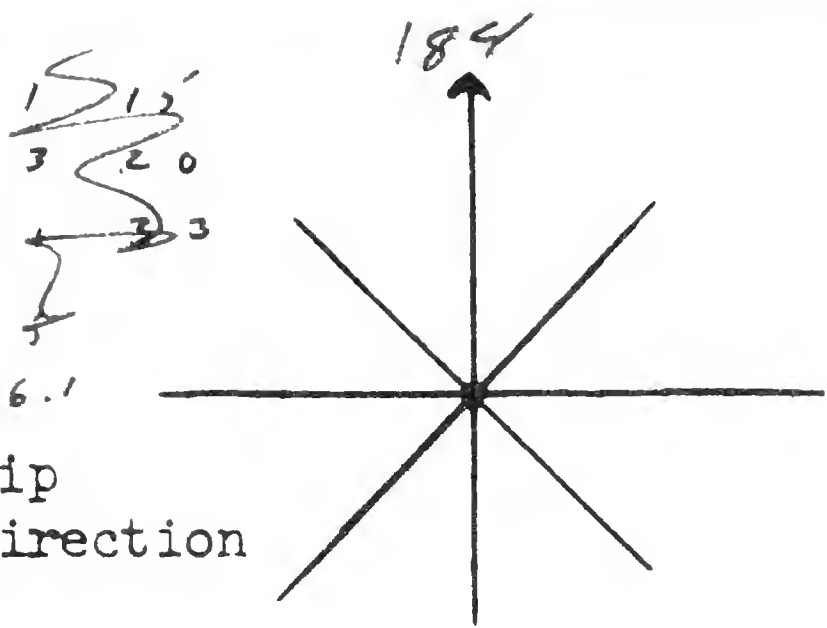
no  
obs.

DINNER

Observations secured 1900

1 R/ock = searching





SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

P. Gould

Date 17 June 1967  
Pg. # 1

SPECIMEN  
or

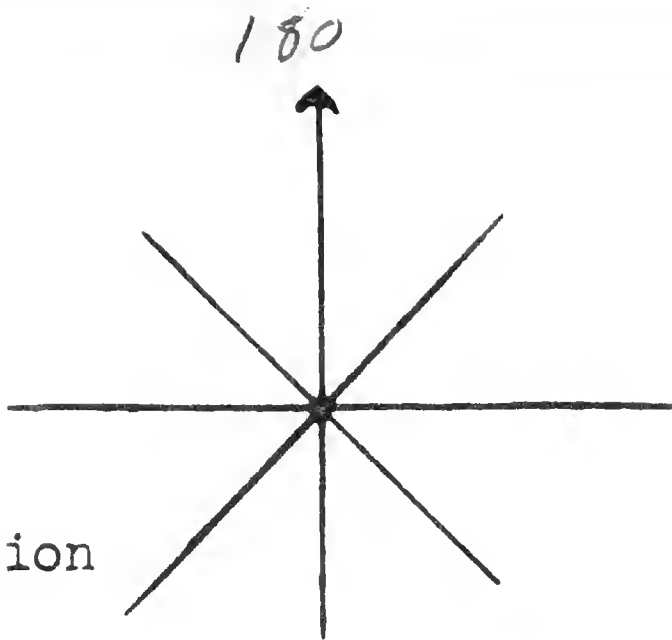
series = 0617

observations began = 0615

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
0640	Porpoise	30±10	S		looked solid dark on top. The whitish ventral surface did not extend too far upon the sides. Did not see the snout very well but it appeared rather blunt.
0730 To 0755		NO OBS.		BREAK FAST	
0812	Leach Petrel	1	NE		
0830 ↑ ship stopped 0845	0843 Leach Petrel	1	⊙		
1001	Sooty Shearwater	1	N	Traveling	
1115 To 1430	NO OBS.				
1430 ↑ ship stopped 1446					
1603 ↑ ship stopped 1630 To 1805	NO OBS.				
1835					miscellaneous observations on scanning made during this period failed to produce any bird sightings

observations secured at 1935

ca. sunset



Ship  
Direction

SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

*P. Gould*

Date *18 June 1967*

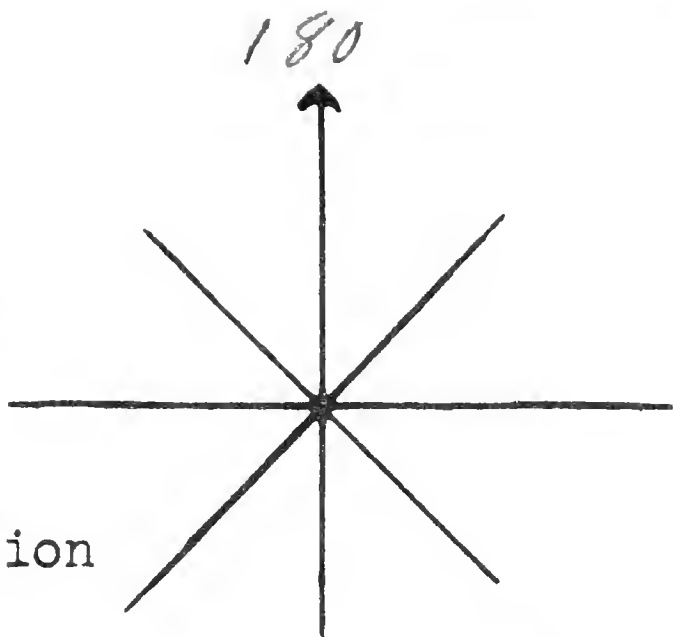
Pg. # *1*

SPECIMEN  
or

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
					<i>begin observations 0615 co. of sunrise</i>
					<i>sky completely cloudy at sunrise but this morning is warmer than previous mornings</i>
					<i>(0735) = small (10+) school of small flying fish)</i>
<i>0750 to 0800</i>	<i>NO OBS.</i>				<i>There been a rain squall on the horizon due south of us all morning. It seem to be moving in a westerly direction. I have felt a few scattered drops of light rain from time to time.</i>
<i>0936</i>	<i>STORM PETREL</i>	<i>1</i>	<i>W</i>		<i>(0923 = small (30+) school of small flying fish)</i>
<i>0937</i>	<i>Leach Petrel</i>	<i>1</i>	<i>on H<sub>2</sub>O</i>		<i>(0926 = second species of flying fish, 1 ca 10" with definite red (rust) colored pectoral sailing fins)</i>
<i>1005</i>	<i>Leach Petrel</i>	<i>1</i>	<i>©</i>		
<i>1020</i>	<i>Shearwater/ or Petrel</i>	<i>1</i>	<i>E</i>		
<i>1032</i>	<i>NO Observation</i>				<i>Stopped for oceanographic station, type 14 until ca 1215 -</i>
<i>1345</i>					<i>Crew members reported a TROPICBIRD that flew in, circled ship, &amp; departed during this time.</i>
					<i>(1515 = small (30+) school of small flying fish)</i>
					<i>1518 = " (15+) " " " " "</i>
<i>1603</i>	<i>NO</i>				<i>ship stop for oceanographic station type 0</i>
<i>1726</i>	<i>OBS.</i>				
<i>1726</i>	<i>NO</i>				
<i>1741</i>					

*Secured observations 1933* SI-MNH-958-e  
Rev. 5-66





Ship  
Direction

SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

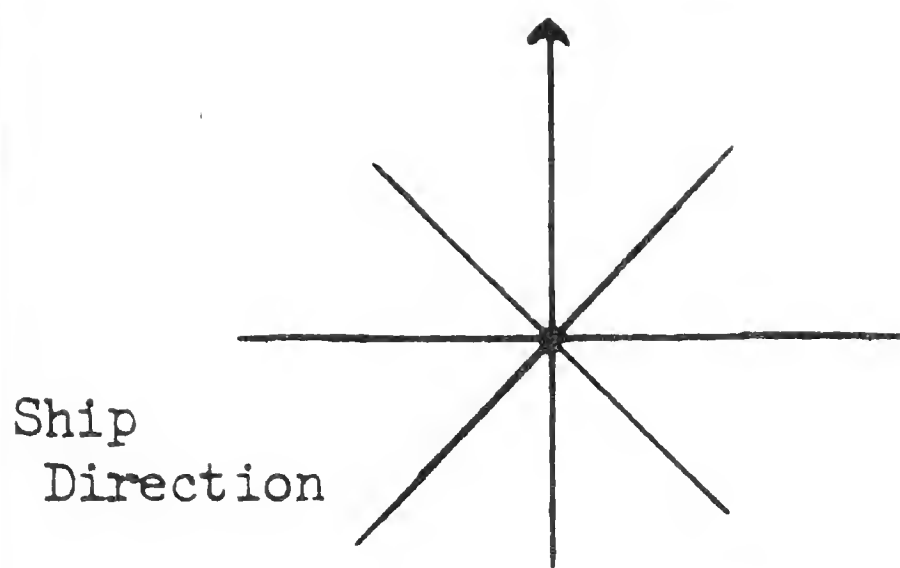
19 June 1967

Pf Gould

at 2300 last night one of the Oceanographers reported what sounds like a Townsend Shearwater flying around the light. Date 19 June 1967  
SPECIMEN OR begin observations 0630 ca. sunrise Pg. # 1

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
0640	Townsend's shearwater	1	@	MH20	a "white bird" was reported around the lights at 0400 and again at 0600 this morning. very black back contour, with very white underparts. white on side of rump extending up about 1/2 as far as Newell's - underwings with what appears to be a heavy and large black border. flew just like Newell (good view at fairly close range)
0735 to 0750	NO obs				Breakfast
0832	Leach Petrel	2	☉		
0853	Leach Petrel	2	☉		
1034 to 1325	NO obs.				Plankton Station stop until ca 1245 an all dark bird flying like an albatross, but legs much smaller was seen by the crew during the plankton station (ca. 1300)
1358	Leach Petrel	1	W		traveling
1530	Collared or Black-wing Petrel	1	on H2O		searched by ship out and down again strong, dark + broad underwing border. plum dot same as to the head color but it appeared black in contrast to a definitely grey back. Best guess is (Collared Petrel) but BWP
1604 to 1705	NO obs				Stop for oceanographic station type B slow speed for Plankton tow

1705  
to  
1737



Ship  
Direction

SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

P. Gould  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

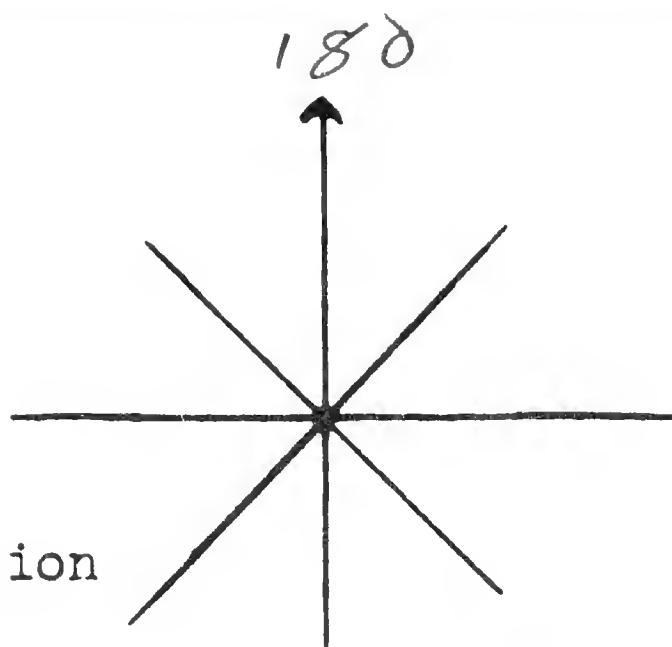
Date 19 June 1967  
Pg. # 2

SPECIMEN  
or

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
1823	Black-winged Petrel	1	NW		traveling
1850	<sup>Black-winged</sup> Cook's Petrel	1	N		traveling
1855	Juan Fernandez Petrel	1	NW		
1857	Murphy's Petrel	1	W		all dark godfrey petrel with definite greyish plum to underwing
1903	Townsend Shearwater	1	E		
close observations					
1924 co. sunset					



Ship  
Direction



SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

P. J. Gould  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

SPECIMEN

garline 0628

Date 20 June 1967

Pg. # 1

or

TIME SPECIES # DIR. BAND NO. REMARKS observations beg. 0620

0630	Procellariiform-type bird	1 ✓	?		The watch reported a storm petrel and a white bellied shearwater around the lights at the 0400-0600 station this morning.
0651	Lark Petrel	1 ✓	<del>SE</del> SE		
0710	Black-winged Petrel	1 ✓	NW		grey head & back, thin black underwing border - good view - typical Black-wing.
0719	Juan Fernandez Petrel	1 ✓	N to NW		
0726	Cook's / white-winged Petrel	1 ✓	W		not too well seen as bird was in the distance but there appeared to be little or no black underwing border. Definitely a small cookalania.
0735	Juan Fernandez Petrel	1 ✓	NW		in distance, looked at white below
0740	Townsend's Shearwater	1 ✓	W		but a little too far away to be certain about size - <del>like</del> like a J.F.P.
0743	Red-tail Tropicbird	3 ✓	N		circled ship once all three looked fully adult. but were <u>not</u> pink.

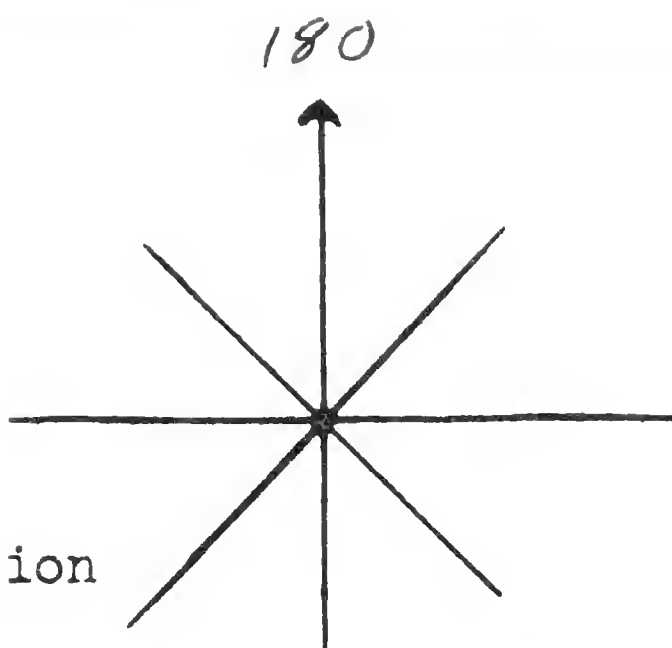
0745  
to  
0753

NO  
OBS.

BREAK  
FAST

0851	Black-winged Petrel	1 ✓	W		good view of back, head & underwing
0858	Pterodroma	1 ✓	NW		in distance - looked often like a
0903	Shearwater	1 ✓	⊙		cookalania - appeared not like a Black-winged Petrel.
0910	Small Pterodroma	1 ✓	S		in distance - large, brown backed (solid) white bellie, underwing white but appeared to have a dark border. looked very much like a little phase wedge-tailed shearwater

Ship  
Direction



SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

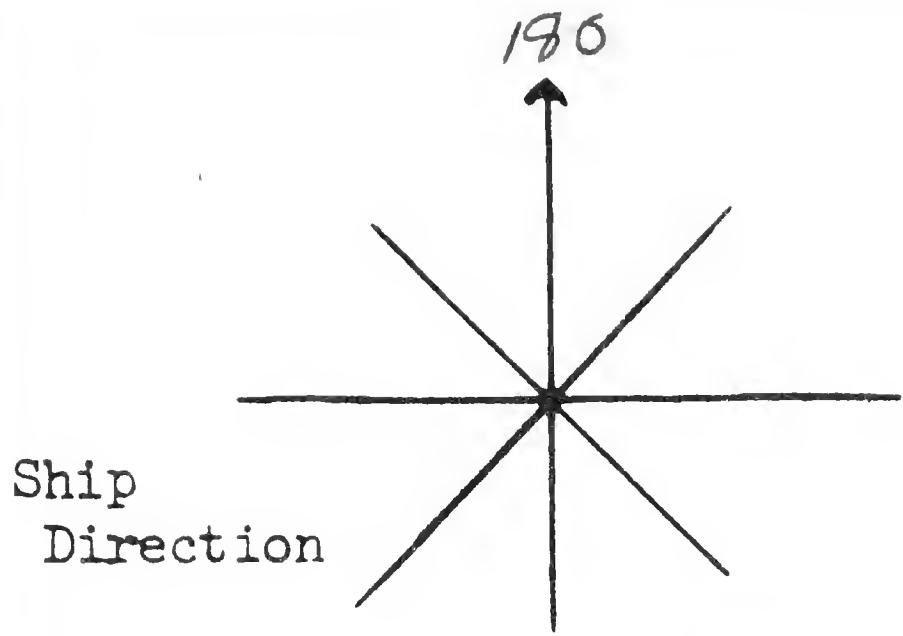
*Pf Gould*

Date *20 June 1967*  
Pg. # *2*

SPECIMEN  
or

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
0934	Dark-rumped Petrel	1 ✓	W		very dark on back, dark border to under wing, high scaling, otherwise looked like Townsends Petrel - heavy molt visible.
0935	Leach Petrel	2 ✓	follow ship		
0945	Black-winged Petrel	2 ✓	near		
0950	Red-tail Tropicbird	1	over ship		definitely sub adult - head short red tail but yellow bill, <del>with blackish area</del> , black specks appeared scattered slightly over wings & back. stayed with ship at least 5 minutes.
0950	Leach Petrel	1 ✓	on H <sub>2</sub> O		
1007	Small Pterodroma	1 ✓	NW		
1012	Leach Petrel	1 ✓	⊙		
1012	Black-wing Petrel	1 ✓	NE		
1012	Pterodroma	2 ✓	⊙		
1020	wedge-tail Shearwater	5 ✓			searching but moving south along with ship. 3 light phase, 2 dark phase stayed with ship for at least 10 minutes
1025	Leach Petrel	1 ✓	⊙		
1030	<del>Leach</del>				a definite Leach's Petrel was observed at 1245.
to	no				C.V. Love saw an all white bird with rather thin & pointed wings flying like a shearwater.
1325	observations				around 1230
1353	Black-wing Petrel	1 ✓	on H <sub>2</sub> O		flew as ship approached but soon sat down again
1410	Shear/Pet	1 ✓			
1415	Pterodroma	1 ✓	on H <sub>2</sub> O		
1430	Red-tail Tropicbird	1 ✓	over ship		dark rectrices short, but appeared slightly colored. bill yellow or pale orange. no indication of black marks anywhere.
1457	Leach Petrel	1 ✓	NE		seen by Mike





SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

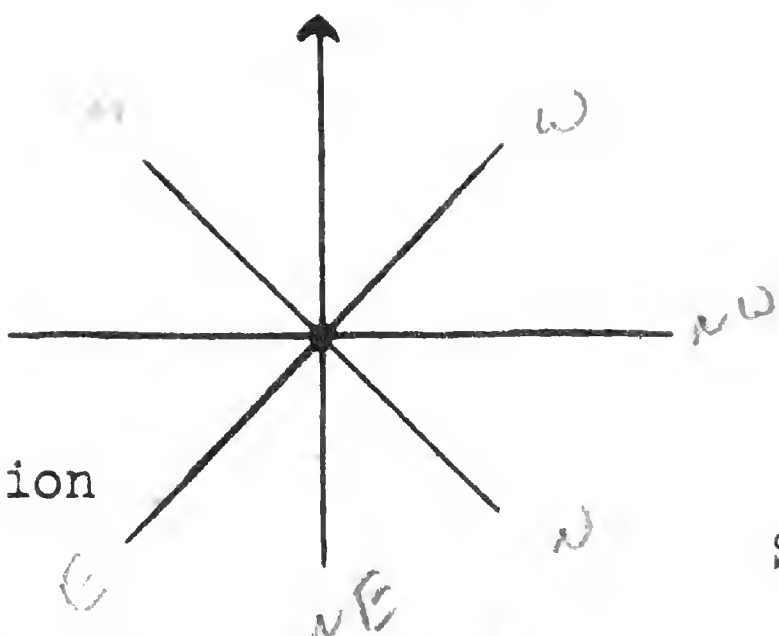
OBSERVERS:  
Pf Gould  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Date 20 Jan 1967  
Pg. # 3

SPECIMEN  
or

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
1507	Juan-Fernandez Petrel	1 ad	NW		molting
1507	Leach Petrel	1 ad	⊙		
1512	" "	1 ad	S		
1516	" "	2 ad	SE		
1523	" "	2 ad	20/100 ship		
1550	" "	6 ad	"		
1600 T6 1815	NO Observations				Ship stopped for oceanographic station & tropicbird was reported around the ship at about 1715
<p>Secure observations at sunset 1918</p> <p>2 flocks (12 birds) = search,</p>					

220 SW

Ship  
Direction

SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

V. J. Gould

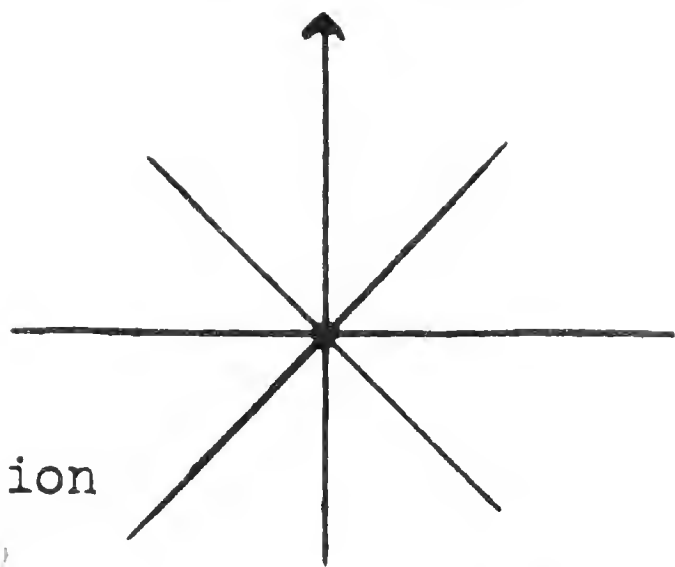
Date 21 June 1967  
Pg. # 1

SPECIMEN  
or

TIME SPECIES # DIR. BAND NO. REMARKS *begin observation ca. sunrise 0634*

0647	Pterodroma	1	✓		
0647	Storm Petrel	1	"		
0649	Pterodroma	1	"		
0650	Juan Fernandez Petrel	1	"		
0651	Shear/Pet	1	"		
0657	wedge-tail? Shearwater	1	"		all dark, but could not see if bill was light or dark - flew like a wedge-tail
0705	Shear/Pet	1	⊙		all dark but too far out to tell anything else about it
0727	Juan Fernandez Petrel	1	↓		molt ing at least on wings
0736 To 0750	NO OBS.				
0800	Juan Fernandez Petrel	1	⊙		
0800	Small Pterodroma	1	⊙		looked like a Black-winged Petrel
0813	wedge-tailed Shearwater	1	←		dark phase
0824	Shearwater	1	←		all dark possibly wedge tail
0826	Black-winged Petrel	1	↖		
0854	Juan Fernandez Petrel	1	⊙		molt ing at least in wings
0900	wedge-tailed Shearwater	1	←		searching - dark phase
0933	Juan Fernandez Petrel	1	⊙		molt ing at least on wings
0935	wedge-tail Shearwater	1	⊙		light phase





Ship  
Direction

SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

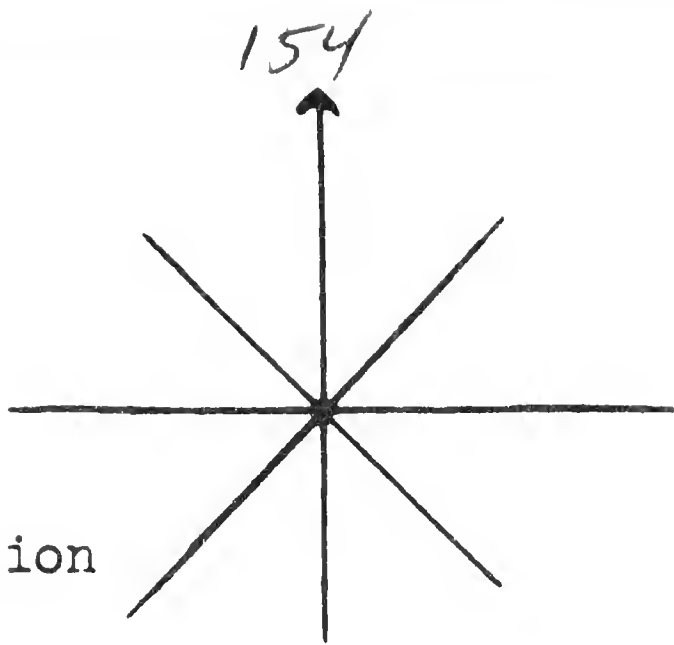
*Pf Gould*

Date *21 June 1967*  
Pg. # *2*

SPECIMEN  
or

TIME SPECIES # DIR. BAND NO. REMARKS

	0952	Pterodroma	1			looked small
	0957	Shearwater	1			
	0959	Leach Petrel	1	⊙		white below, looked like wedge-tail
	1000 to	no obs.				
	1425					at recording buoy oceanographic station a light phase Wedge-tail was seen while stopped (ca 1115)
1445	1425	Red-tail Tropicbird	1	over ship		(new ship heading 152°)
rain squall area	1529	Shearwater	1	→		flies like Wedge-tail, flying in light rain just after we passed through heavy rain squall
1530	1538	Shearwater	1			
	1553	Shear/Pet	1			all dark, looked and flew like a Wedge-tail.
	1554	"	1			both were white bellied, white underwing with black border, both looked large size. both at edge of rain squall.
	1600 to 1730	no obs.				
						Oceanographic station
	1730	} slow speed	Plankton tow			
	1755					
	1758	Wedge-tail Shearwater	2	⊙		both light phase
	1806	Black-wing Petrel	1	↗		
	1816	Wedge-tail Shearwater	1	→		light phase



Ship  
Direction

SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

Pf Gould  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Date 21 June  
Pg. # 3

SPECIMEN  
or

TIME SPECIES # DIR. BAND NO. REMARKS

1846 Wedg-tail Shearwater 1- E dark Phase

1914 Pterodroma 1- ↑ dark underwing border probably a black-wing Petrel

see observation  
Sunset 1916

~~0634 - 0730~~

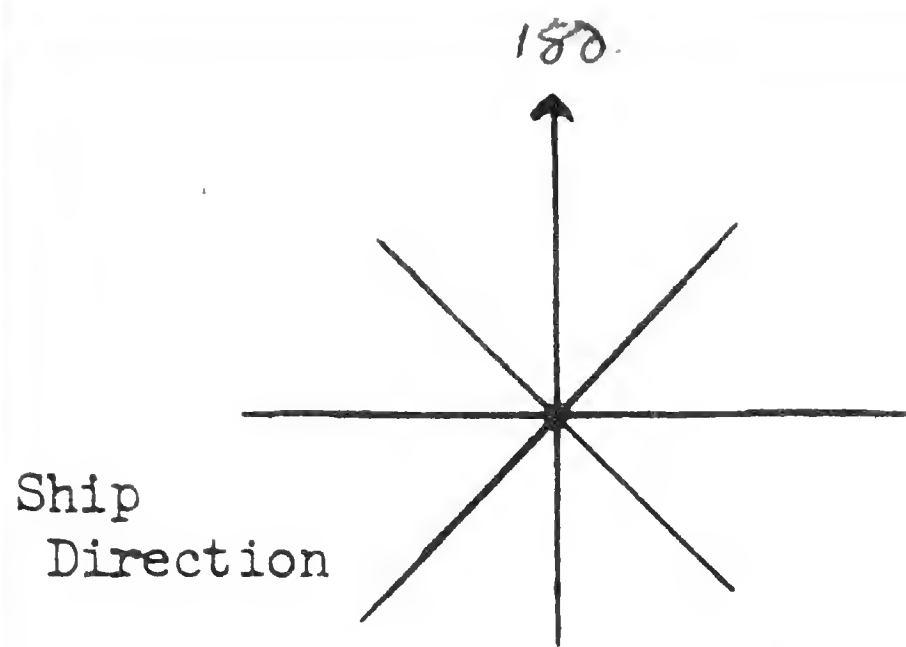
~~0750 - 1000~~

~~1425 - 1600~~

~~1230 - 1916~~

~~56~~  
~~10~~  
~~35~~  
~~16~~  
~~149~~  
6.5

6.5 hours of observation



Ship  
Direction

SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

P. J. Gould

Date 22 June 1967  
Pg. # 1

SPECIMEN

or

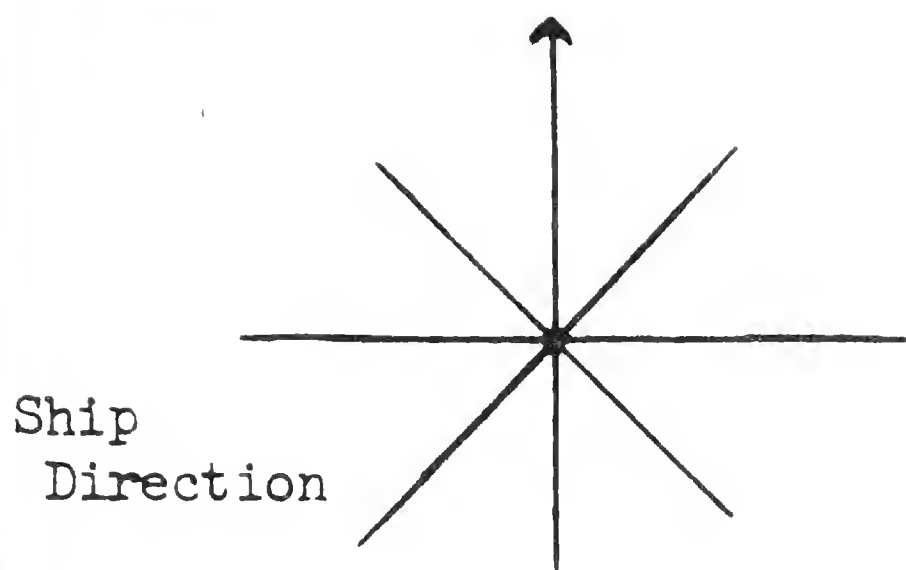
sunrise = 0638

TIME SPECIES # DIR. BAND NO. REMARKS

begin observations = 0635

0646	Juan Fernandez Petrel	1-	S	—	searching
0653	Tahiti / Phoenix Pet.	3-	W	—	some what smaller than J.F.P., flight slow without much arcing, at least did not arc very high, back appeared very dark brown but this may have been due to light conditions. looked very small headed.
0712	Shear / Pet	1-	⊙	—	large, white below, uncrowing looked mostly white and back appeared grey, but flew like a shearwater rather than a petrel.
0718	Juan Fernandez Petrel	2-	⊙	—	
0722	Wedge-tail ? Shearwater	1-	S	—	light phase - could have been a J.F.P.
0724	Juan Fernandez Petrel	4-	S	—	searching
0727	"	3-	S	—	searching
0738	"	1-	⊙	—	
0739	Shear / Pet	1-	E	—	
0740	Shear / Pet	1-	E	—	all dark, uncrowing & head down.
0745	Wedge-tail	1-	⊙	—	dark phase
0745	Juan Fernandez Petrel	1-	⊙	—	
0746	Wedge-tail	1-	⊙	—	dark phase
0747	Juan Fernandez Petrel	1-	⊙	—	
0748	"	2-	⊙	—	
0750	"	1-	⊙	—	
0755	"	1-	⊙	—	
0758	"	1-	⊙	—	
0800	Wedge-tail Shear	1-	E	—	dark phase
0801	Pterodroma	1-	—	—	white belly dark uncrowing
0802	Juan Fernandez	1-	E	—	
0803	Wedge-tail	2-	E	—	dark phase





SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

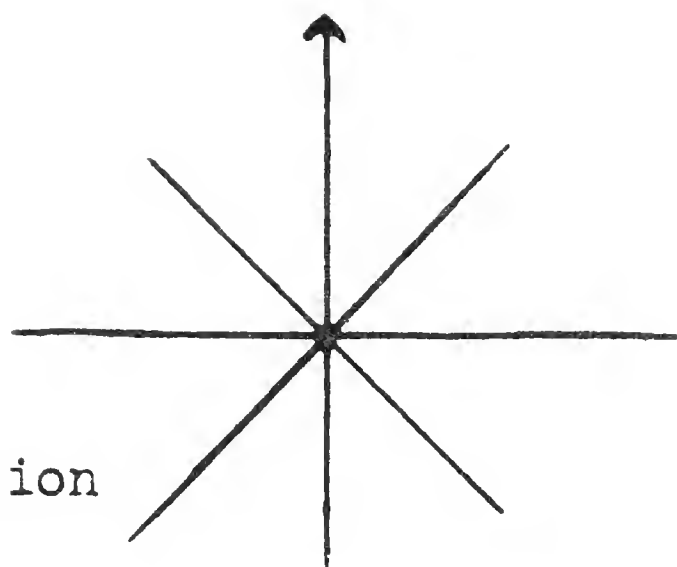
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Date 22 June 1967  
Pg. # 2

SPECIMEN  
or

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
0805	Juan Fernandez Petrel	3-	E	_____	molt
0806	Wedge-tail	1-	E	_____	dark phase
0807	"	1-	E	_____	" "
0807	"	1-	E	_____	" "
0808	Juan Fernandez Petrel	1-	⊙	_____	molt
0810	Wedge-tail	2-	E	_____	dark phase
0813	Juan Fernandez Petrel	1-	?	_____	molt
0814	Wedge-tail	1-	SE	_____	dark phase
0817	" "	1-	_____	_____	" "
0818	Juan Fernandez Petrel	1-	_____	_____	longish size - molting
0820	Shear/Pet	2-	_____	_____	
0821	Shear/Pet	2-	_____	_____	
0823	Shear/Pet	1-	_____	_____	
0825	Juan Fernandez Petrel	1-	_____	_____	
0830	Flock				
	Juan Fernandez Petrel	15 ± 3	⊙	_____	searching but no active feeding observed
	Wedge-tail	10 ± 3	_____	_____	dark phase
0834	Wedge-tail	1-	⊙	_____	dark phase
0837	" "	5-	⊙	_____	dark phase
0842	Juan Fernandez Petrel	1-	S-SE	_____	molt
0844	Wedge-tail	1-	S	_____	dark phase
0848	Small Pterodroma	1-	NW	_____	
0850	Pterodroma	1-	NE	_____	white below, grey above
0851	Juan Fernandez Petrel?	1-	E	_____	
0851	"	1-	E	_____	

Ship  
Direction



SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

*P. J. Gould*

Date 22 June 1967  
Pg. # 3

SPECIMEN  
or

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
0900 to 0905	Flock				
	Juan Fernandez Petrel	15 ± 2	☉		
	Red-tailed Tropicbird	1-			
0909	Stomach Petrel	1-			
0910	Juan Fernandez Petrel	1-	E		Tropicbird was chased and harassed high into the air for several minutes by a J. F. P.
0922	"	1-	E		
0928	Wedge-tail	1-	E		
0932	Juan Fernandez Petrel	1-	E	dark phase	
0933	"	1-	E	molt	
0934	"	1-	E	"	
0936	"	1-	☉	"	
0946	"	1-	☉	"	
0947	"	1-	E	"	
1002	Shear/Pet	1-	S	white below	
1005 to 1015	Flock Wedge-tail Shearwater	9-	on H <sub>2</sub> O		
	White-neck Petrel	1-			
	Pterodroma	1-			
1020	Black-wing Petrel	1-	on H <sub>2</sub> O		
1030	BULWERS PETREL	1-	NE		
1031 to 1330	NO OBS.				
					Station 11

Tropicbird part of searching or feeding flock  
Tropicbird was chased and harassed high into the air for several minutes by a J. F. P.

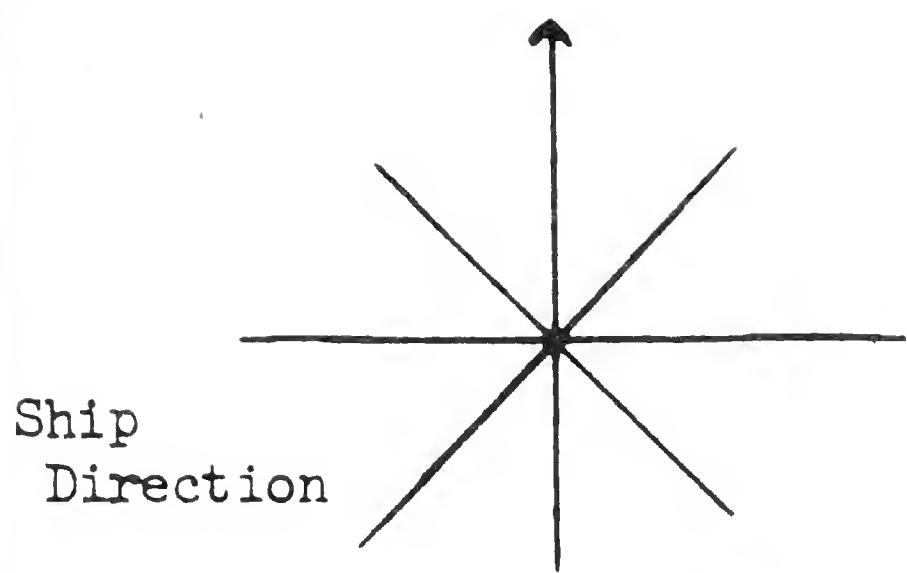
white below and about head - grey dorsally, especially on wings and part of back, ~~seen~~ - seen for only a few seconds, but was gliding, all the time in view, may have been white faced Storm Petrel grey on dorsal surface appeared patchy as if bird was molting. Tail appeared rather short, bird seemed chunky, but this may have been due to angle of vision may not have been part of flock -

Dark Phase

well seen, ~~had~~ white color, darker head, fuzzy under wing border -

glided by ship

few right under bow + spread tail - tail long + wedge shaped, light brown bars on wings not doubt at all about identification.



Ship  
Direction

SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

P. J. Gould

Date 22 June 1967  
Pg. # 4

SPECIMEN  
or

TIME SPECIES # DIR. BAND NO. REMARKS

1336 Juan Fernandez Petrel 1- NADE

1402 " 1-

1403 Wedge-tail 1- E DARK PHASE

1419 " " 1- E DARK PHASE

1423 " " 1- E DARK PHASE

1445 Flock  
Wedge-tail shearwater 100±25 NE Feeding + searching - all dark phase

1452 Juan Fernandez Petrel 1- on H<sub>2</sub>O molting

1510 " 3- on

1514 " 2- H<sub>2</sub>O molting tail + wing - flushed by ship

1505 Dark shear/pet 2- molting

seen by Mrs. Lowe - Probably Wedge-tails.

1530 Juan Fernandez Petrel 4- 5 molting

1551 " 1- molting

1600 Ship stopped  
to for ca 20  
1700 min.

1705 Wedge-tail 1- E Dark phase

1709 Shear/pet 1- molting

1710 Wedge-tail 1- E Dark phase

1710 Juan Fernandez Petrel 1- molting

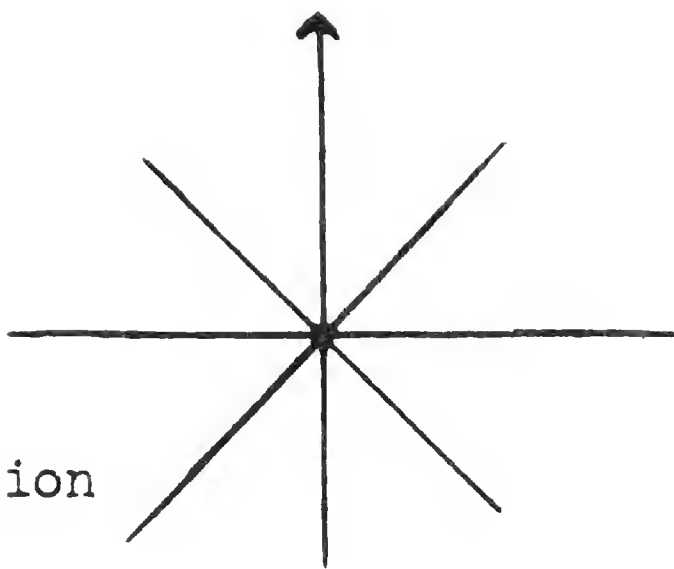
1710 Rock Shear Petrel 1- molting

1716 Juan Fernandez Petrel 2- E molting

1730 Wedge-tail shearwater 1- NADE DARK PHASE



Ship  
Direction



SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

*J. J. Gould*  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Date *22 June*  
Pg. # *5*

SPECIMEN  
or

TIME SPECIES # DIR. BAND NO. REMARKS

1742 Wedge-tail Shearwater 4- E dark phase

1752 Shear/Pet 1- ?

1800 " " 1- W

1815 White-neck Petrel 1- on 420 flushed by ship

1817 Brown Booby Petrel 1- ©

1817 Leach Petrel 1- W

1825 Shear/Pet 1-

1830 Flock

P. externus 35+5  
Shear/Pet 10±3

Feeding + searching  
Tuna school - 1 yellow tail caught.

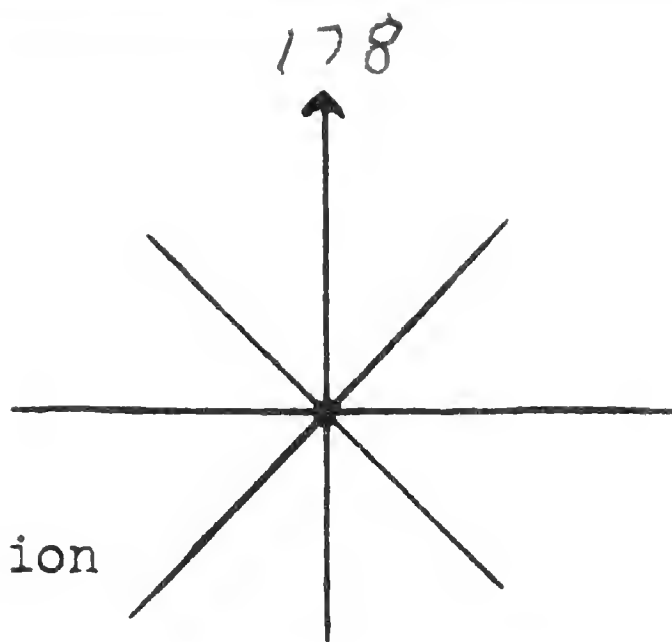
1835 stop for Sea Bouy  
& Plankton Station  
Secure Observations.

6 flocks (201 birds)

3 searching + feed

2 search

1 on H<sub>2</sub>O



Ship  
Direction

SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

1 of Gould  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Date 23 June 1967  
Pg. # 1

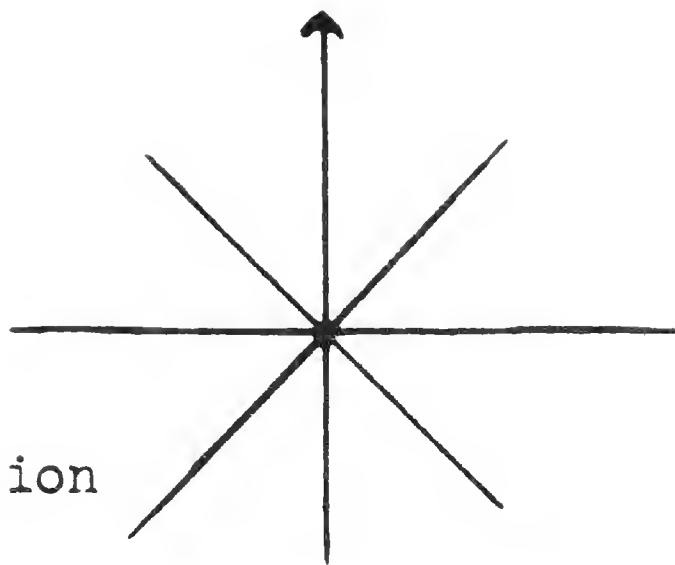
SPECIMEN  
or

sunrise 0643

TIME SPECIES # DIR. BAND NO. REMARKS begin observations 0646

0651	Shear/Pet	1	N			Very windy + rough, completely overcast with clouds, difficult observation.
0655	Leach's Petrel	1	⊙			
0705	"	1	SW			
0705	Wedge-tail	1	SW			heading for 0708 flock
0708	Feeding					DARK PHASE heading for 0708 flock
0714	Searching Flock					
	Wedge-tail	10				DARK PHASE
	Leach's Petrel	10				
	Shear/Pet	20	SE			
0716	Leach's Petrel	1	W			
0718	Wedge-tail Shearwater	1	SW			DARK PHASE
0720	Leach's Petrel	3	⊙			
0721	Wedge-tail Shear	1	E			
0723	Phoenix/tobacco Petrel	1	W			poor light but looked brownish then other bird f saw and smaller with possibly a white flecking in mid line of under wing.
0727	Shear/Pet	1	W			
0731	Wedge-tail? Shearwater	2				all Dark
	Small Pterodroma	1	E			
0732	Leach's Petrel	1	W			
0735	"	1	E			
0736	"	1	E			
0745	NO					ship shifted from 0800 to 0815 for station type MC, "ST-D"
0815	Observation					

Ship  
Direction



SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

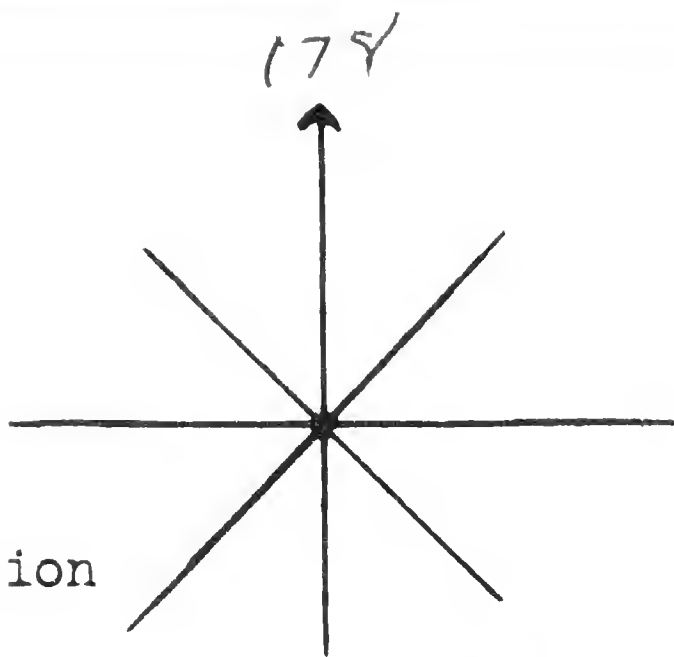
*P. J. Gould*

Date *23 June 1967*  
Pg. # *2*

SPECIMEN  
or

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
0815	Juan Fernandez Petrel	1	☉		m molting
0823	Shear/Pet	1	W		
0832	Juan Fernandez Petrel	1	W		m molting
0835	FLOCK				
0845	Wedge-tail	300 ± 50			at least half of the birds were sitting on the water, the rest were flying lazily about as if flushed by the ship.
	Juan Fernandez Petrel	100 ± 25			
0850	Juan Fernandez Petrel	2	NE		m. sitting
0852	"	1	W		"
0857	Black-wing Petrel	1	NE		
0903	Juan Fernandez Petrel	1	E		m molting
0908	"	1	W		"
0908	Wedge-tail Shearwater	1	NE		light phase
0910	Juan Fernandez Petrel	1	NE		m molting
0915	"	1	S		"
0921	"	1	E		"
0922	"	1	on 1420		
0922	Wedge-tail Shearwater	2	S		Dark phase
0924	Shear/Pet	1	E		
0928	Terns	5	SE		looked like the right size, shape, & flight for Sooty Terns, once below horizon I could make out white below & dark above, rest of the tern they were sure without
0938	Juan Fernandez Petrel	1	SE		
0938	Shear/Pet	1			





SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

Date 23 June 1967  
Pg. # 3

SPECIMEN  
or

TIME SPECIES # DIR. BAND NO. REMARKS

0941	juv. Fairy Petrel	1 -	E		molting
0943	"	1 -	SE		"
0944	"	5 -	m		"
0945	"	1 -	H <sub>2</sub> O		flushed by ship
0946	"	2 -	⊙		"
0948	Wedge-tail Shear	2	m		"
	juv. Fairy Pet	1	H <sub>2</sub> O		molting
0949	juv. Fairy Petrel	2 -	⊙		molting
1000	"	1 -	E		"
1009	"	1 -	m		"
1018	"	1 -	H <sub>2</sub> O		molting - flushed by ship.
1023	"	1 -	E		molting
1027	"	3 -	⊙		"
1029	"	1 -	H <sub>2</sub> O		" , flushed by ship
			E		"

1030

no

Observation

ship stopped for Oceanographic station

1305

under way at full speed.

1312

Wedge-tail Shearwater

4 -

m  
H<sub>2</sub>O

dark phase, at least 2 molting on wings - flushed by ship.

1327

juv. Fairy Petrel

3 -

ms

all molting

1336

Leach Petrel

1 -

msE

1348

juv. Fairy Petrel

1 -

m  
H<sub>2</sub>O

molting, flushed by ship.

1354

Wedge-tail Shearwater

1 -

msE

dark phase

1355

Leach Petrel

1 -

ms

1400

Wedge-tail

1 -

ms

dark phase

1400

"

1 -

ms

" "

1400

juv. Fairy Petrel

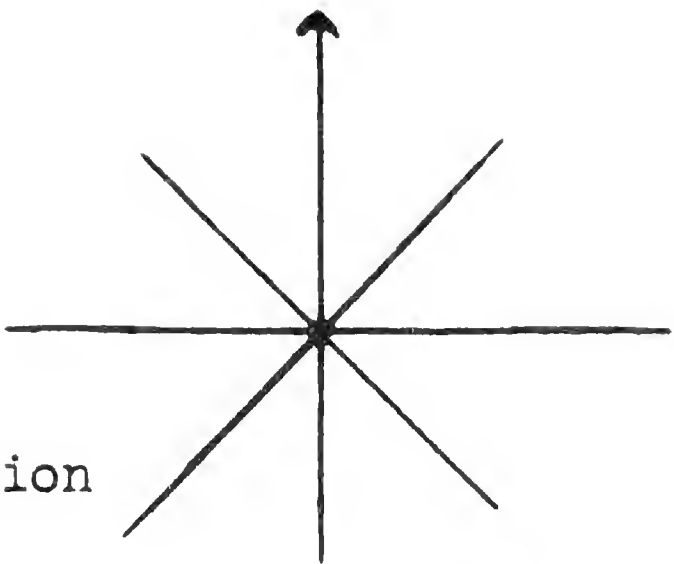
1 -

ms

molting

SI-MNH-958-e

Rev. 5-66



Ship  
Direction

SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

P. Gould

Date 23 Jan 1967  
Pg. # 1

SPECIMEN  
or

TIME SPECIES # DIR. BAND NO. REMARKS

1405  
to  
1430

no  
observed.

Stopped for STD station  
no birds present while stopped.

1450

Juan Fernandez  
Petrel

1 -

W

molting

1452

"

2 -

W

molting, probably flushed off H<sub>2</sub>O by ship

1600

no

to

1755

Observed.

Oceanographic station

1755  
to  
1820  
Net Tow  
Along beam

1824

Juan Fernandez  
Petrel

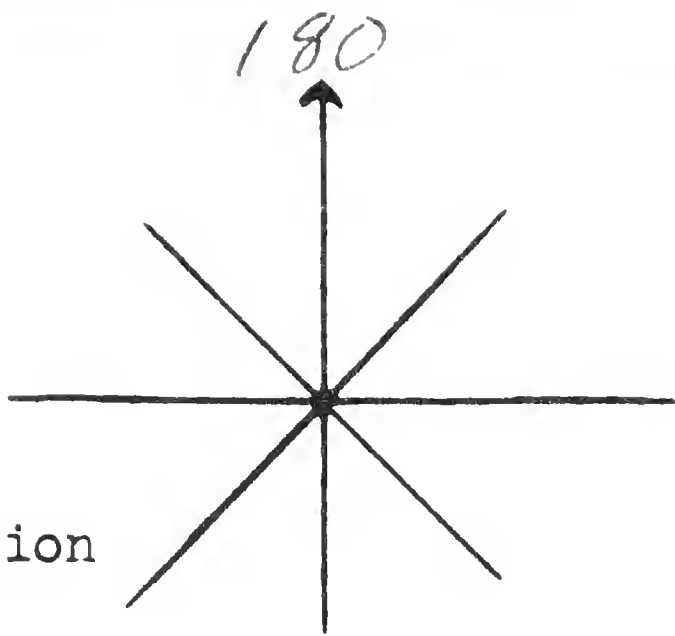
1 -

SW

molting

sun set ca 1910

Secure Observations 1915



Ship  
Direction

SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

*P. J. Gould*

Date *24 June 1967*  
Pg. # *1*

SPECIMEN  
or

*sunrise 0648*

TIME SPECIES # DIR. BAND NO. REMARKS

*begin observations 0645*

0730

To

NO

0745

Obs.

BREAK  
FAST

0800

TO

NO

0830

Obs.

Oceanographic station  
Ship stopped.

at 0930 Mike Roll observed a bird  
flying fast and erratic which was  
smaller than a Leach Petrel, white below,  
and brown above. He said it wasn't  
a flying fish because it stayed airborne  
too long (until out of sight).

1030

NO

1245

Obs.

Ship stopped for plankton samples

1304

Wedge-tail

1

on  
H<sub>2</sub>O

1245 - ~~stop~~ ship moving at slow speed  
for plankton tow  
light phase

1307 - Resume full speed

1410

To

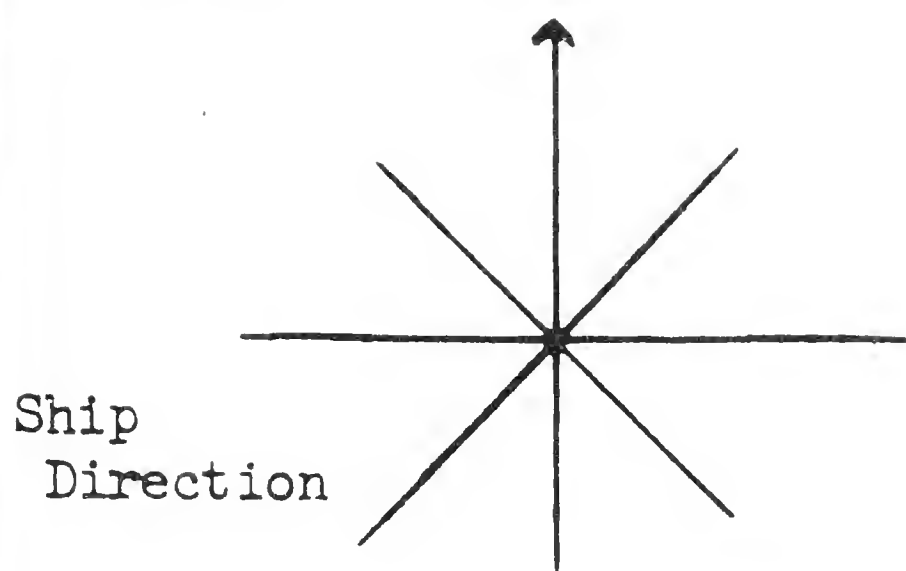
NO

1430

Obs.

Ship stopped for STD





Ship  
Direction

SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

pf Gould

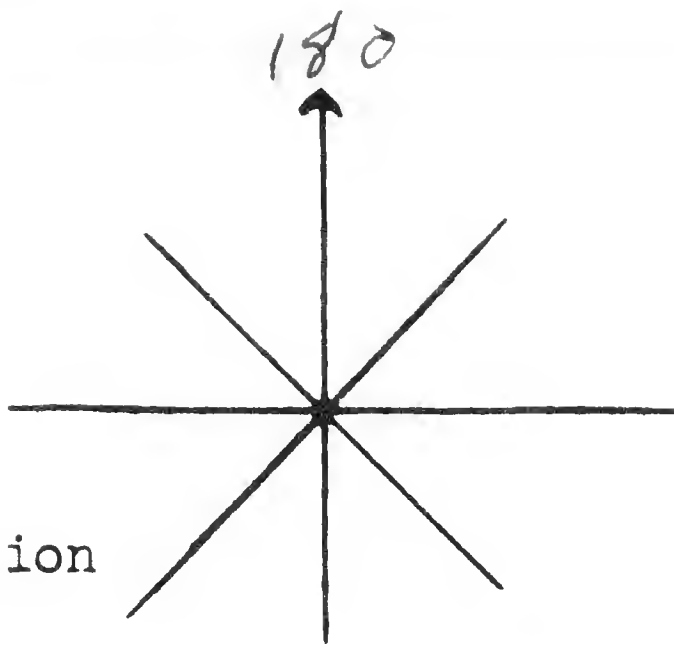
Date 24 June 1967  
Pg. # 2

SPECIMEN  
or

TIME SPECIES # DIR. BAND NO. REMARKS

<del>1600</del>					
1600 to 1742	no obs.				Stopped for Oceanographic Station
1845	Wilson's Storm Petrel	1	W		<del>1845</del> close range, flight distinctive, size definitely smaller than Leach's.  Close observations ca sunset + <del>1900</del> 1902

Ship  
Direction



SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

P. J. Gould

Date 25 June  
Pg. # 1 1967

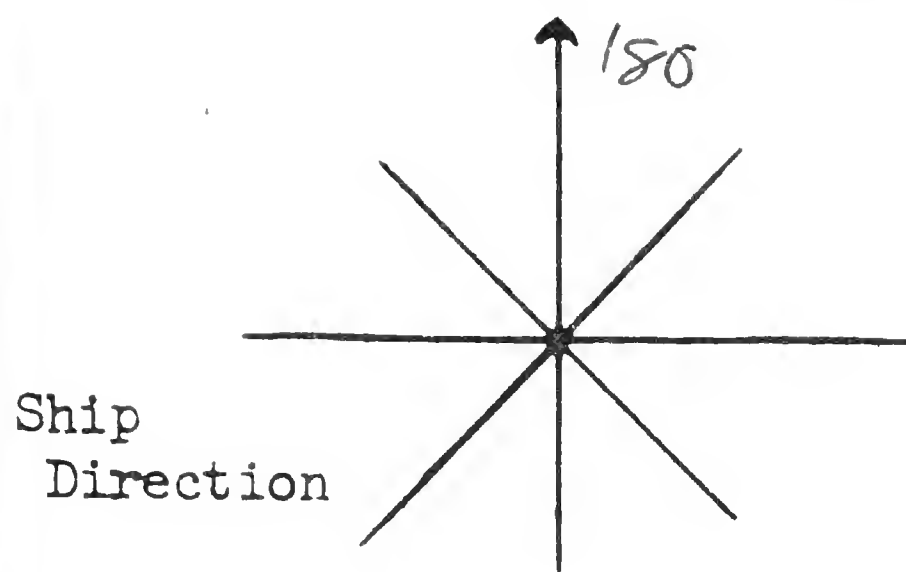
SPECIMEN  
or

sunrise 0653

begin observation

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
0715	Blackwing Petrel	1	NE		
0748 to 0831	NO * 065.	see note →			ship stopped for STD station at 0800
0841	Wedge-tail? shearwater	1	?		ship resume speed at 0831 light phase
1030 to 1230	NO 065.				ship stopped for Oceanographic Station
					ca. 1230 begin Slow plankton Tow
					1255 - half speed for another net tow
					1342 resume full speed.
1400 to 1500	NO obs.				ship stopped for equator crossing ceremony -
1509	Harcourt's Storm Petrel	1	N		traveling
1515	Jaeger Family Petrel	1	⊙		Probably flushed from water no opportunity
1546	"	1	on H <sub>2</sub> O		no apparent molt

at 0823 a white -  
rumped storm petrel flew  
around ship - flight  
lighter than Leach's with  
less soaring, wing beat  
more constant and somewhat  
deeper than Leach's. Rump  
patch very broad, sharply demarcated  
without trace of brownish -  
it appeared to extend farther  
out toward end of tail  
than does Leach's -  
Definite Harcourt's  
Storm Petrel  
Flight much more  
Leach's like than  
Oceanites like.



Ship  
Direction

SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

1/1/67  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Date 26 June 1967  
Pg. # 2

SPECIMEN

or

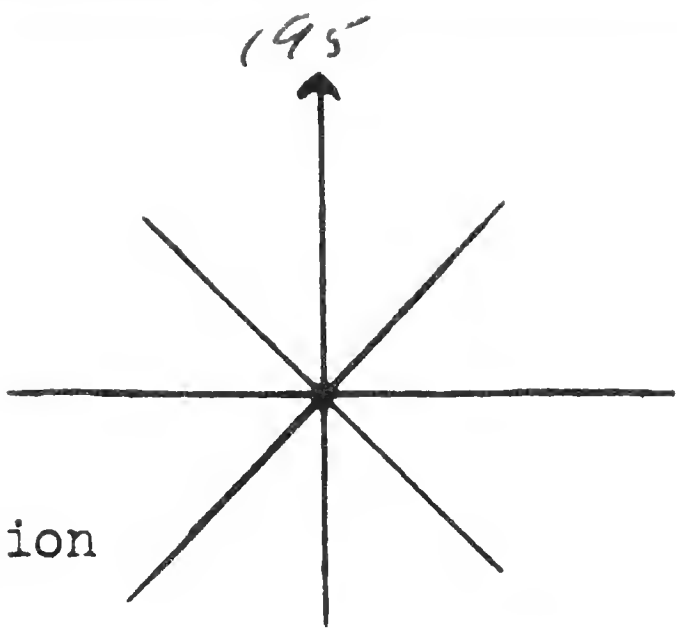
TIME SPECIES # DIR. BAND NO. REMARKS

1558	Pterodroma	1	S		
1600 to 1735	no obs.				Stopped for Oceanographic Station  juv. terns flying around ship at ca 1610 no apparent molt
1753	juv. terns Petrel	1	on H <sub>2</sub> O		flushed by ship - no apparent molt
1802	"	1	S		molting
1805	Cook's/ or white-wing Petrel	1	S		molting - small Cook's with an all white appearing underwing - bill to do. hard to be sure
1807	Pterodroma	1	S		
1818	Wilson's/ Elliot's Storm Petrel	1	W		- saw legs trailing behind tail - flight distinct from Cook's or Leucorhoa
1848	juv. terns Petrel	1	⊙		

Secured watch  
at sunset ca 1856



Ship  
Direction



SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

W. J. Gould  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

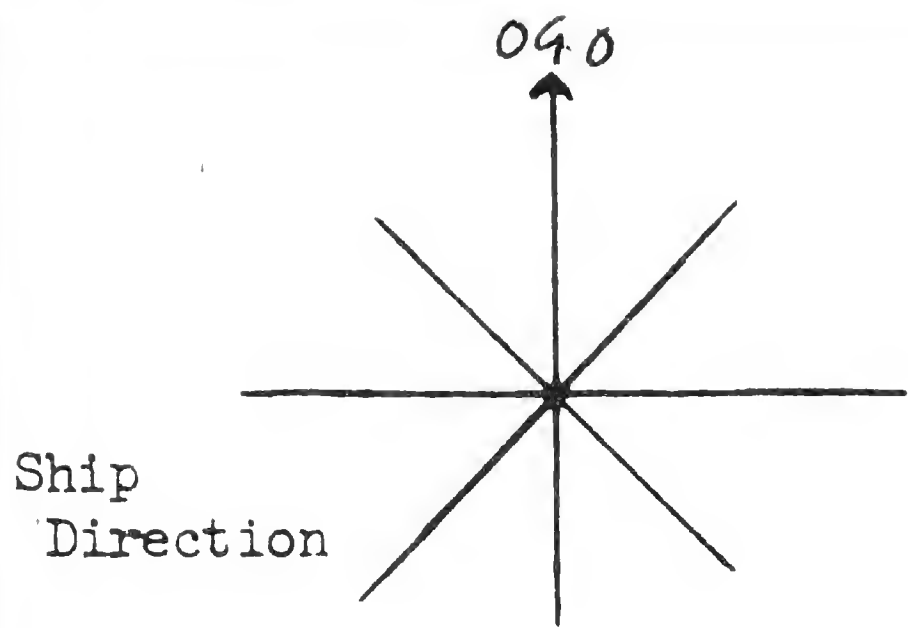
SPECIMEN  
or

sunrise = 0658

Date 26 June 1967  
Pg. # 1

observation began = 0655

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
					[Pterodroma around light at 0510 probably frigatebirds]
0718	frigatebird Pterod	1	☉		no molt - old plumage - looked like a white-neck because of worn plumage
0723	"	1	☉		
0737	"	1	☉		this bird, however, did not have a molt white neck band probably flushed from H <sub>2</sub> O as had the previous bird. probably flushed from H <sub>2</sub> O, no molt apparent
0750 To	NO				Break fast + oceanographic station
0823	Obs.				1 Pterodroma was flying around ship while it was stopped.
0856	frigatebird detrit	1	S		
0940	<del>Pterodroma</del> <del>frigatebird</del> <del>white-winged</del> <del>Pterodroma</del>	1	SW		looked small, Cook's on white-winged?
0945	frigatebird Pterod	1	☉ H <sub>2</sub> O		flushed from water, molting
0946	"	1	"		" " " , no molt
0955	white-winged/ on Cook's Petrel	1	☉ H <sub>2</sub> O		no noticeable black underwing border - had appeared black, but light was bad.
1018	Pterodroma	1	☉ H <sub>2</sub> O		flushed by ship at distance ca 1000+ yards.
1021	Cook's / on white wing Petrel	1	☉ H <sub>2</sub> O		thin black anterior border to all white underwing, back of head looked very black
1024	Pterodroma	1	☉ H <sub>2</sub> O		flushed in distance by ship
1030 To	NO				
1330	Obs.				oceanographic station



SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

*V. J. Gould*

Date 26 June 1967  
Pg. # 2

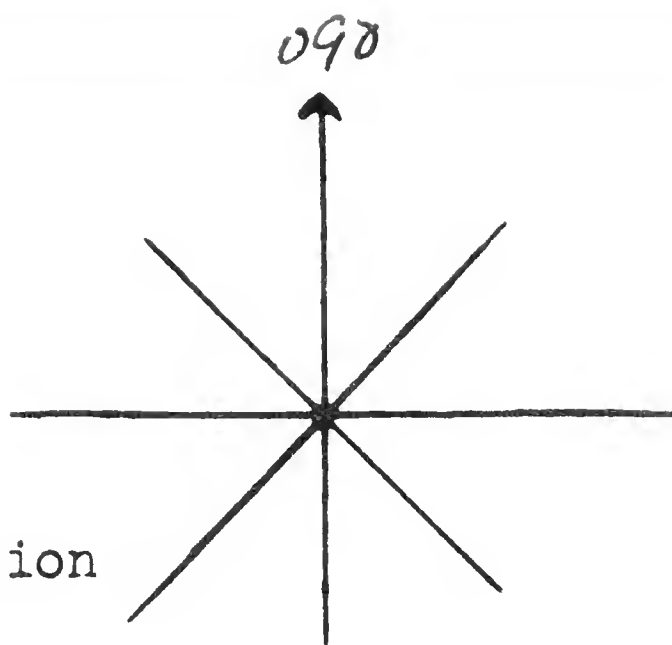
SPECIMEN *Heading 090 at 1305*  
or

TIME SPECIES # DIR. BAND NO. REMARKS

1348	Cook's Petrel	1	<i>on ship</i>		flushed by ship. Underway with very thin black border, head, neck + back concealed
1405	Shear/Pet	1			reported off tail by Mike Rall
1525	Leach's Petrel	1			normal appearance.
1534	Small Pterodroma	1	N		

*Secure observation  
1550*

*Mike Rall reported two tropicbirds  
flying over ship at 1835*



Ship  
Direction

SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

P. Gould

Date 27 June, 1967  
Pg. # 1

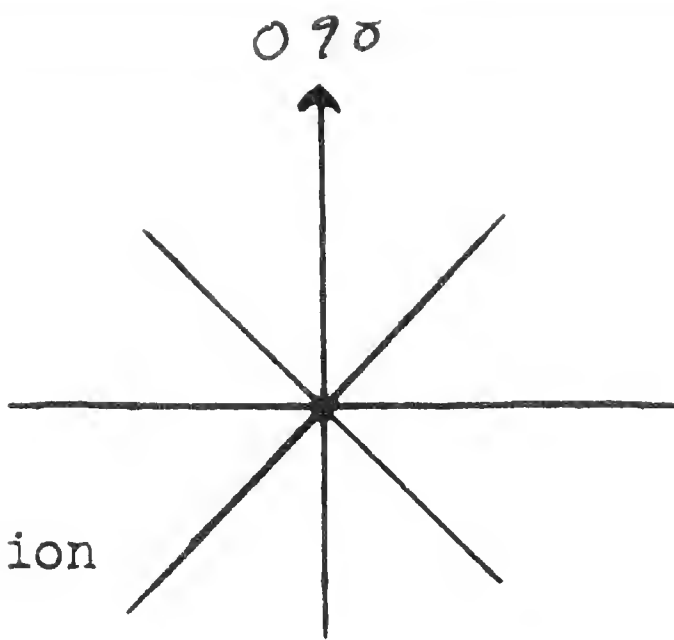
SPECIMEN  
or

sunrise 0650

begin observations 0650

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
0653	<del>White-throated Storm Petrel</del> <del>Storm Petrel</del>	1	☉		looked size of Leach Petrel
0701	Juan Fernandez Petrel	1	☉	no molt	had a lot of white below, but seemed to have black bands on wing - light bird, bird rather far away and sea very rough - 1106 - afternoon, seen white-throated Storm Petrel from sun that that is what this bird was
0730	"	1	☉	" "	
0740 TO 0810	NO Obs.				
0814	Pterodroma	1	NE		
0827 to 0831	Flock				searching, but no active feeding
	Fairy Tern	1			
	Collared Petrel	2			black head & shoulders, grey back, large amount of black under wings, but most of stomach white. good view.
	Wedge-tail Shearwater	2		light phase	(one small (blueish size) & all dark)
	Shear/Pet	4 ± 1			
0856	Pterodroma	1	NE		looked like small Cook's Petrel with all white underwing
0901	SKUA ?	1	SE		appeared somewhat lighter below than above, underparts either light brown or dirty white, but light is bad, thought I saw white patches in wing, bird flying with constant wing beats (no gliding) large size, but too far away, and boat bouncing too bad to be sure.
0914	Juan Fernandez Petrel	1	NE	no molt	
1014	Juan Fernandez Petrel	1	NE	020? plumage	
			H <sub>2</sub> O	no molt	
1046	White-throated Storm Petrel	1	☉		
1102	White-throated Storm Petrel	1	☉		excellent view - behavior distinctive
1102	Juan Fernandez Petrel	1	☉		this bird only kicked off the water a couple of times, otherwise he flew somewhat like a Leach Petrel
1105	Small Pterodroma	1	NE		in sun





Ship  
Direction

SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

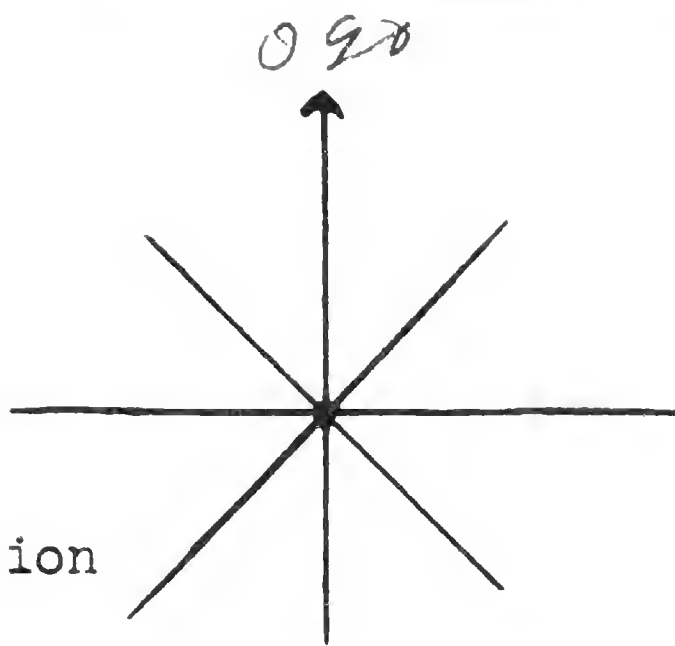
OBSERVERS:

P. Gould

Date 27 June 1967  
Pg. # 2

SPECIMEN  
or

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
1108	from Family Petrel	1	☉		
1110 to 1345	no obs.				wind & seas very rough, difficult to stand on deck
1402	from Family Petrel	1	on 40		no molt.
1405	"	1	☉		" "
1405	"	1	☉		" "
1410	Small Pterodroma	1	N		
1411	from Family Petrel	1	☉		no molt
1414	white-winged Petrel	1	SW		black head, thin black border to underwing?
1418	red-tailed Tropicbird	1	over sky		looked brownish color [1416 = turtle with 3 reddish ridge down back]
1428	white-throated Storm Petrel	1	NE		subadult - black flecking over back, no black in wing, dark rather short & white. kicked off water twice, rest of team sailing in sterns and low over H <sub>2</sub> O
1435	white-winged Petrel	1	☉		black head, thin black underwing lining? molting
1447	" "	1	☉		" " " " " " " ? molting
1452	Small Pterodroma	1	N		
1453	" "	1	N		
1454	" "	1	N		
1514	white-winged Petrel	1	SW		
1541	from Family Petrel	1	N		
1545 to 1549	Flock from Family Petrel Fairy Tern white-winged Petrel	1 2 2			searching but not closely knit no molt



Ship  
Direction

SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

*A. Gould*

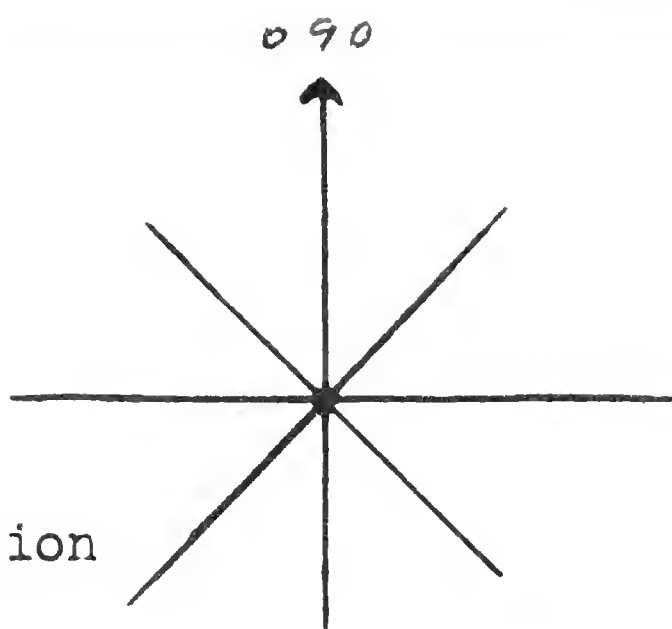
Date *27 June 1967*  
Pg. # *3*

SPECIMEN

or

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
1551	White-winged Petrel	1	☉		This bird had a lot of black on head + possibly shoulder, also much black border to underwing.
<del>1552</del> 1556	Small Pterodroma	1	☉		
1610 to 1726	NO OBS.				
1726	Pterodroma	1	☉		
1741	"	1	N		
1805	White-winged Petrel	1	N		
1806	Small Pterodroma	1	N		
1808	" "	1	N		
1808	" "	1	N		
1809	" "	1	N		
1814	White-winged Petrel	1	S		
1820	Leach's Petrel	1	☉		no molt

*watch ceased at  
sunset 1843*



Ship  
Direction

SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

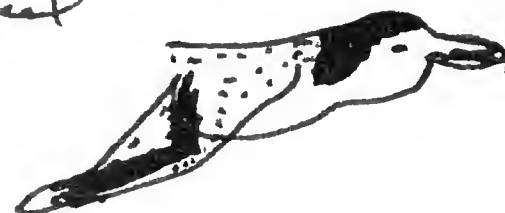
Pf Gould

SPECIMEN  
or

sunrise 0633

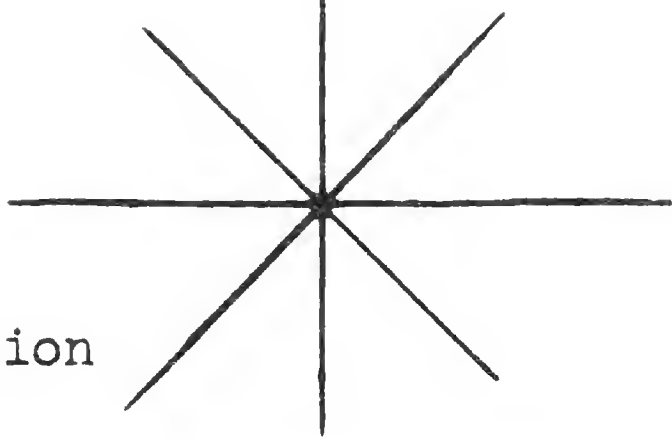
Date 28 June 1967  
Pg. # 1

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
observations begin					
0725	white-winged Petrel	1	on W <sub>20</sub>		difficult black head & grey back, black underwing border difficult, but not as extensive as in black-winged.
0732	Small Pterodroma	1	S		
0738	juv. Tern-like Petrel	1	S		
0740	Pterodroma	1	S		in distance but had dark underwings
0745	juv. Tern-like Petrel	1	⊙		and white bellie no molt
0746 to 0758	NO obs.				
0810	juv. Tern-like Petrel	1	⊙		
0814	Small Pterodroma	1	W <sub>25</sub>		white below, black border to underwing
0818	juv. Tern-like Petrel	1	W <sub>25</sub>		no molt
0826	Small Pterodroma	1	SW		
0836	white-wing Petrel	1	SW		black eye & black underwing border, molting
0840	Small Pterodroma	5	on W <sub>20</sub>		flushed in distance by ship
0914	juv. Tern-like Petrel	1	NE		no molt
0916	white-wing Petrel	1	S		black head, black border to underwing with grey back, black of head extends down only to neck and sides of neck & head
0921	" "	1	N	no molt	not black middle of colored Pet
1034	juv. Tern-like Petrel	1	⊙	no molt	molt in wings





027

Ship  
Direction

SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

Date 28 June 1967Pg. # 2

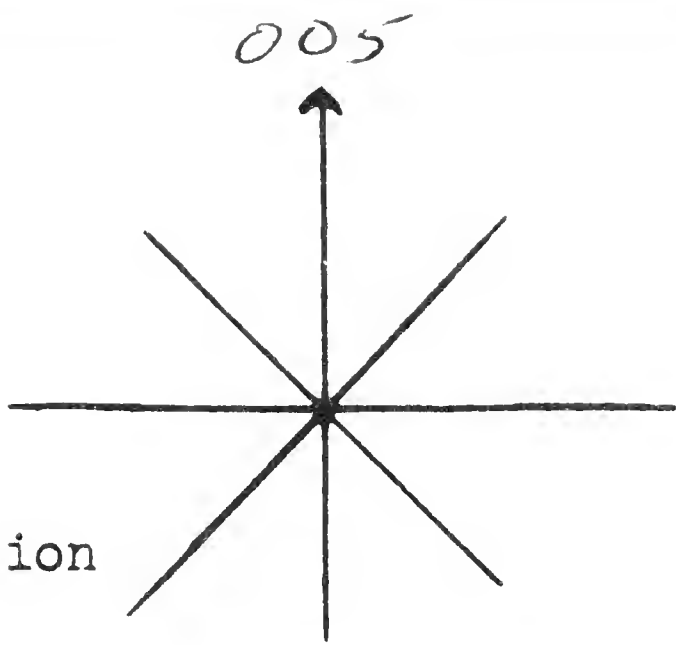
SPECIMEN

or

TIME SPECIES # DIR. BAND NO. REMARKS

1035 to 1430	no obs.					oceanographic 1035 to 1405 Station underway at 1405 heading 027
1448	Small Pterodroma	1 -	W			white below
1457	white-wing Petrel	4 -	⊙			on H <sub>2</sub> O? or feeding?
1511	"	1 -	⊙			molting
1549	"	1 -	N			
1558	Small Pterodroma	3 -	N			probably flushed from H <sub>2</sub> O by ship
1600	White wing Petrel	1 -	N			quite noticeable black underwing border
1600 to 1725	NO Obs.					oceanographic station.
1758	White-wing Petrel	2 -	⊙			1725 slow speed for net tow
1819	"	4 -	⊙			1740 full speed - Probable on H <sub>2</sub> O + flushed by ship
1824	White-throated Storm Petrel	1 -	⊙			molting - typical Kiting behavior - well seen

Severe waves  
at Sumatra 1830



Ship  
Direction

SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

P. J. Gould

SPECIMEN  
or

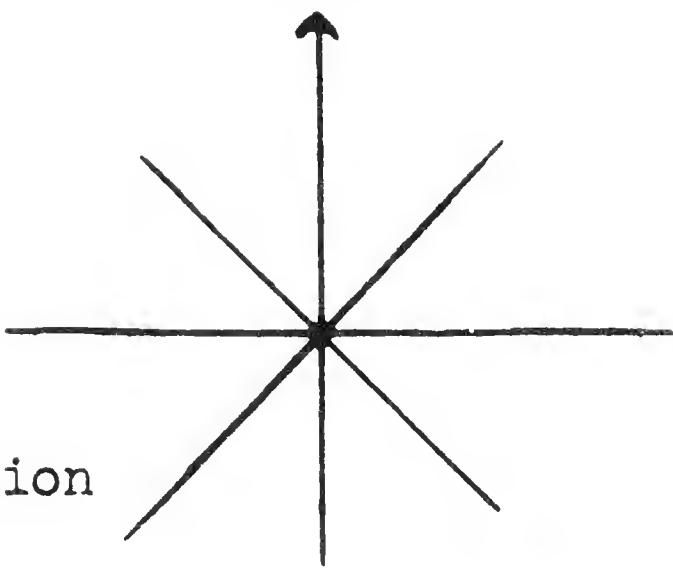
Serial 20627

Date 29 June, 1967  
Pg. # 1

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
					<u>begin observations - 0625</u>
0638	Juan Fernandez Petrel	1	@		no molt
0727	"	1	S		distant
0727	"	1	S		very distant
0737	Pterodroma	1	N		
0750 TO	NO				
0820	Obs. Saw.				
0837	Small Pterodroma	1	SW		
0852	Juan Fernandez Petrel	1	on 1420	NO molt	white below - appeared to have black band but no black underwing border, but not observed well enough to be sure
0852	White-wing Petrel	1	@		black underwing border not quite as thick as a Black-winged Petrel - molt present
0912	Phoenix/or Tahiti Petrel	1	on 1420		flushed by ship - had a rich brown
1030 TO	NO				
1425	Observ.				Oceanographer station
1443	Harcourts/or Leach's Pet	6	on 1420		1425 ship moving slow for plankton tow 1436 resume full speed flew like Harcourts, broad white wings <del>but</del> tail spurs tails flew + looked (white wing) more like Harcourts
1507	Harcourts/or Leach's Pet	1	@		
	Wilson's/or Elliott's	1	@		definitely smaller + bill like slight very different when seen together
1515	Harcourts? Storm Petrel	6	@		very good look of one bird which was more like
	Wilson's/or Elliott's S.P.	1	@		excellent view
1544	Harcourts/or Leach's Pet	2	@		around garbage just dumped overboard
1548	Storm Petrel	2	@		in front of ship
1556	Harcourts/or Leach's	1	@		

002

OBSERVERS:

Ship  
Direction

SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

Date 29 June 1967  
Pg. # 2

SPECIMEN

or

TIME SPECIES # DIR. BAND NO. REMARKS

1600

NO

1730

Obs.

1735

Harcourt/  
Leach's St. Pet

1

©

1730 slow speed for plankton tow

Probably Harcourt

1813

Small  
Pterodroma

1

SW

1750 full speed

1824

Harcourt/ or  
Leach's St. Pet

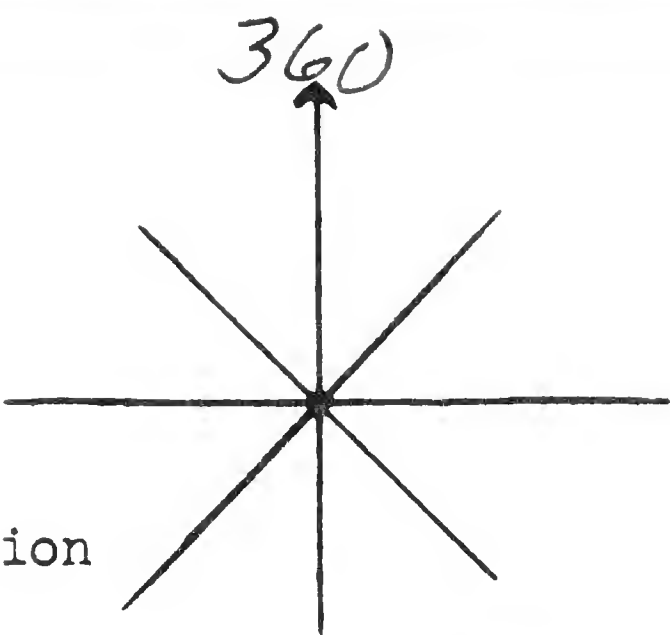
1

W

Secure observation of  
Sunset ca. 1833

observation held from  
2245 to 2400.  
no birds seen





Ship  
Direction

SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:





*P. J. Gould*

SPECIMEN  
or

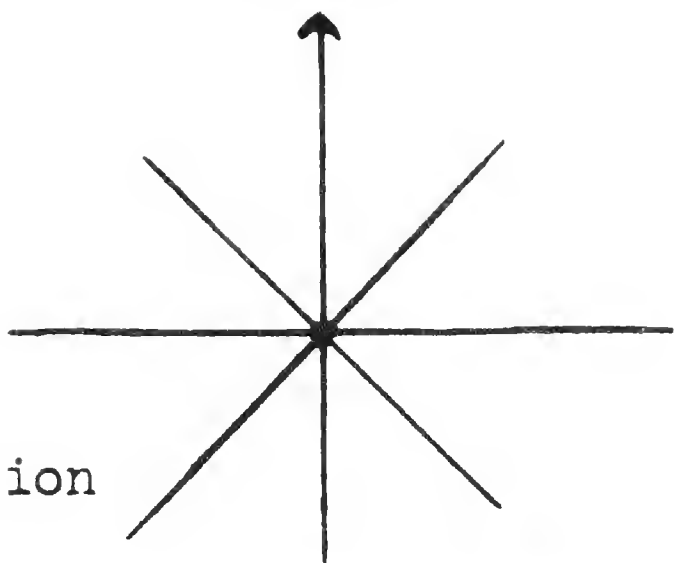
*Sunrise = 0626*

Date *30 June 1967*  
Pg. # *1*

TIME SPECIES # DIR. BAND NO. REMARKS *Begin Observations = 0626*

0750 To 0820	no obs.				TOS station
0838	white-wing Petrel	1	on H <sub>2</sub> O		only a thin black border to underwing, much less than in a Black-winged Petrel. but black of head definitely come down side of throat in brood patch
0903	Harcourt's S.P.	1	⊙		Flight definitely not Leach's, rump patch broad + well defined
1000	white-wing Petrel	1	m H <sub>2</sub> O		
1015	Harcourt's Petrel	1	⊙		underwing with different black border, almost as broad if not as broad as Black-winged border.
1027	Harcourt's/ Leach's Pet	1	⊙		molt visible in primary flying more like Leach's, but still somewhat more bottle-like - rump patch broad + clean cut.
1028 To 1400	no obs.				Oceanographic station. slow speed net tow at 1325
1455	Pterodroma	1	NE - distant		resume full speed at 1415
1515	WHALE	1	NW		traveling fast, 40+ feet, 
1516	Harcourt Storm Petrel	3	⊙		
	white-throated Storm Petrel	1	⊙		beautiful view, dark chest band white throat - everything  to H <sub>2</sub> O but did not kick off.
1524	white-wing Petrel	1	SW		 molting
1531	Harcourt's/ Leach's	1	⊙		
1600 To 1715	no obs.				
1725	white-wing Petrel	1	SE H <sub>2</sub> O		1725 - slow speed for plankton tow 1745 - resume full speed

360

Ship  
Direction

SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

P. J. Green  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Date 30 June  
Pg. # 2

SPECIMEN  
or

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
1806	Harcourts/ Leach's Pet	1	☉		
1807	Shear/pet	1	NW ☉		
<p>Secure observations at ca. sunset 1838</p>					

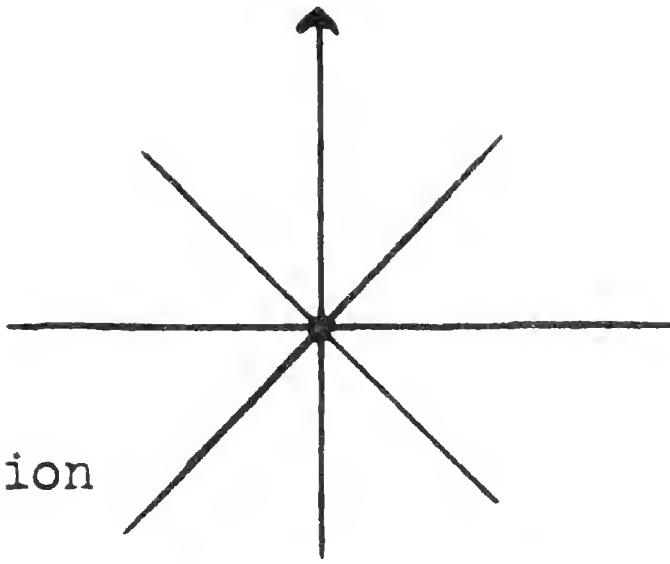
NOCTURNAL

OBSERVERS:

P. J. Gould

SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

Ship  
Direction



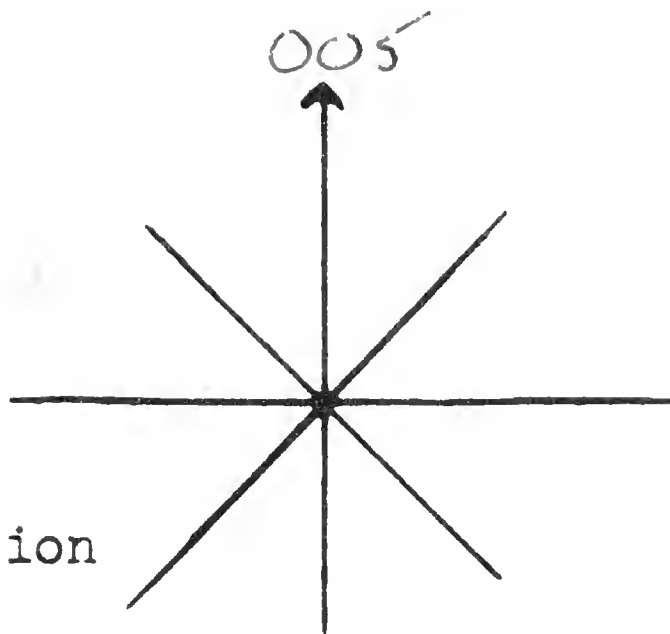
SPECIMEN  
or

Date 30 June - 1 July  
Pg. # 1

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
	<u>Ship stopped</u>				<u>Begin observations 2315</u>
2320	<u>Shear/Pet</u>		<u>1</u>		
2353	<u>Harcourt/ Leach Pet</u>		<u>1</u>		
2358	<u>"</u>		<u>1</u>		
0005	<u>"</u>		<u>1</u>		
<u>0005</u>	<u>slow speed for net tow</u>				
0030	<u>Shear/Pet</u>		<u>1</u>		<u>ca 1 mi/s</u>
0035	<u>white wing Petrel</u>		<u>1</u>		<u>Secure observation 0045</u>



Ship  
Direction



SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:


P. J. Gould

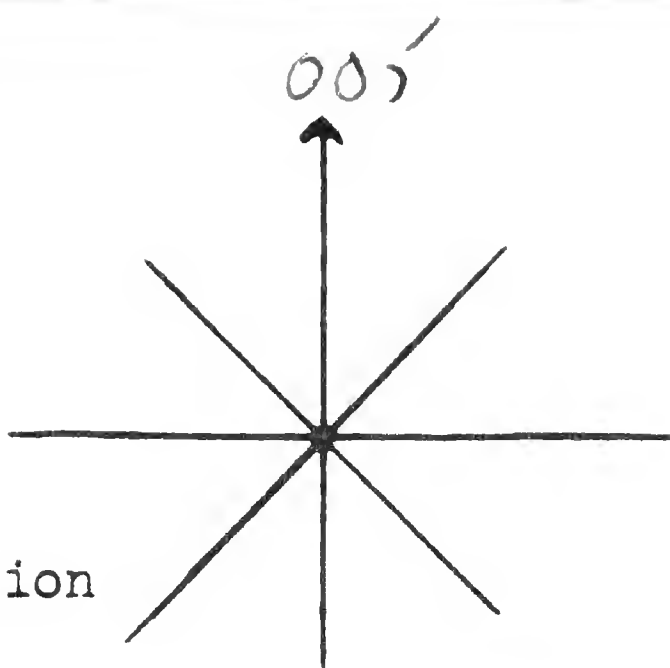
Date 1 July, 1967  
Pg. # 1

SPECIMEN  
or

sunrise = 0623

Begin observations = 0630

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
0646	Juan Fernandez Petrel	1	☉		molting in remiges
0702	wedge-tailed Shearwater	1	☉		light phase
0716	" "	1	W		light phase
0722	Juan Fernandez Petrel	1	W		molting in remiges
0723	wedge-tail Shearwater	1	on H <sub>2</sub> O		light phase
0724	" "	1	W		" " } joined together, to drift W
0750 to 0815	NO Observation				ship steamed from 0800 to 0815 observation from 0805 to 0815 = no birds.
0819	Harcourts/Leach's Pet.	1	W		
0907	white-wing Petrel	1	on H <sub>2</sub> O		relatively broad black underwing band
0934	Small Pterodroma	1			
0953	Juan Fernandez Petrel	1	on H <sub>2</sub> O		no molt visible, gave a high pitched buzzing call as it rose from H <sub>2</sub> O
1017	Harcourts Storm Pet.	2	☉	Follow ship for over 5 min	 well defined, sharp outlined wing patch, flight, lighter, more constant wing beats, & some a bit faster beats - doesn't slip sideways like Leach's often do when gliding. Tail not noticeably forked even when spread full or half.
1030 to 1340	NO Observations				Oceanographic Station
1353	Juan Fernandez Petrel	1	on H <sub>2</sub> O		no apparent molt
1400	Rufous-tail Tropicbird	1	☉	1620 stopped and tied	over ship - bill yellow to pale orange black speckling all over (Subadult)



Ship  
Direction

SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

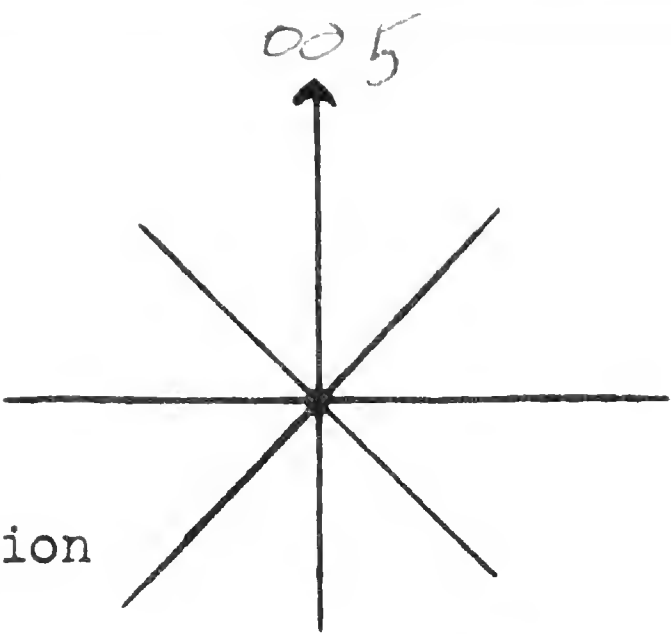
*V. J. Gould*

Date 01 July 1967  
Pg. # 2

SPECIMEN  
or

TIME SPECIES # DIR. BAND NO. REMARKS

1412	White-wing Petrel	1 -	☉		
	Pterodroma	1 -	☉		
	Storm Petrel	1 -	☉		
1414 To 1435					Stopped for TSD 1416 Pterodroma ☉ 1425 Harcourt Storm Petrel ☉
1435	Harcourt Storm Petrel	1 -	☉		same as 1625 entry
1447	Leach's Storm Petrel	1 -	on H <sub>2</sub> O	no molt old plumage	1442 Red-tail tropicbird of 1400 flushed from water again.
1458	Shear/Pet	1 -	SW		
1458	" "	1 -	SW		dark, looked like light phase wedgetail
1501	Leach's Storm Petrel	1 -	W		" " " " " "
					molt in remiges
1506	Storm Petrel	1 -	E		
1507	Tahiti/Pha. Petrel	1 -	on H <sub>2</sub> O		very large bird, dark, blackish brown above underwings solid dark, slow wing beats as arising from H <sub>2</sub> O
1508	Flock Leach's Storm Petrel	4 -	on H <sub>2</sub> O		heavy molt
	White-wing Petrel	2 -	on H <sub>2</sub> O		
	Harcourt/Leach Petrel	1 -	☉		
1517	Wedge-tail Shearwater	1 -	W		dark phase
1520	Leach's Storm Petrel	1 -	☉		
	Leach's or Harcourt Petrel	1 -	☉		flew like Leach's
1526	Leach's Storm Petrel	3 -	☉		molt in
1551	Harcourt's Storm Petrel	1 -	☉		



Ship  
Direction

SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

Pfgoed

Date 01 July 1967  
Pg. # 3

SPECIMEN  
or

TIME SPECIES # DIR. BAND NO. REMARKS

1550	Flock				many sitting, many flying - definite feeding
To 1600	Sooty Tern	225 ± 50			flor, two small fish, possibly skipjack were seen by the Captain.
	Wedge-tail Shearwater	200 ± 50 - light phase 100 ± 25 - dark phase			at least one immature (1st yr) bird most were adults.
	Pale-footed Shearwater	1 -			
	Green Tropicbird	40 ± 10			
	Leach's/Harcourt Storm Petrel	2 -			
	Red-tail Tropicbird	1 -		od.	

[ a Leach Storm Petrel was found on deck at 1600 but apparently had been there for some time. ]

Flock scattered over large area

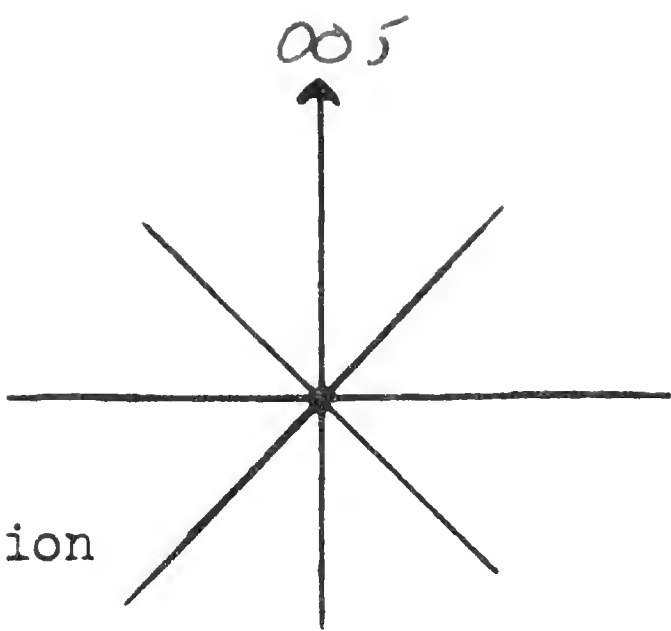
1600	no				oceanographic station
To 1711	obs				

1711	Wedge-tail Shear	2	⊙	light phase	1711 slow speed for Alouette tow
1717	Wedge-tail Shear	3	⊙		light phase
	Green Tropicbird	2 +	⊙		
1741	Shear/Pet	150 ± 25			feeding - mostly Green Tropicbirds
7/108	Tern	30 ± 10			
1745	Green Tropicbird	1 -	on H <sub>2</sub> O	heavy molt	1745 - full speed
1758	" "	2 -	on H <sub>2</sub> O	heavy molt	
1805	" "	1 -	⊙		leaving flock
1805	Phoenix/White Petrel	1 -	⊙		leaving flock

don't count these time

These birds probably from other flock some in same place - do not count





Ship  
Direction

SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

Pf Gould

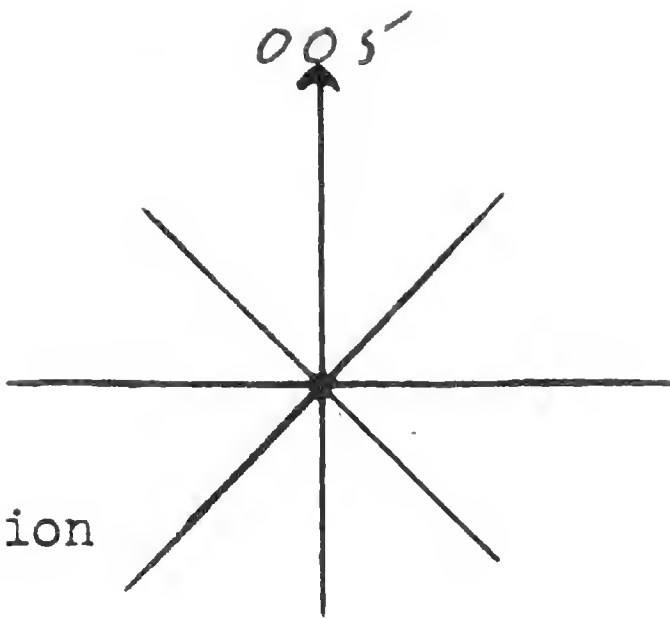
Date 01 July 1967  
Pg. # 4

SPECIMEN  
or

TIME SPECIES # DIR. BAND NO. REMARKS

1807	Flock				Feeding - birds fairly concentrated in small area.
TO	Wedge-tail	3 ± 1 =		light phase	
1819	Wedge-tail	6 ± 1 =		dark phase	
	Sooty Tern	12 -			
	Frigatebird	1 -			
	from Fanning Petrel	20 ± 5 =			looked all dark
	Kermadec Petrel	1 -			dark phase
1825	from Fanning Petrel	1 -	⊙		
1827	"	4 -	⊙		all in heavy molt
1833	Wedge-tail Shear.	1 -	⊙		dark phase
1840	Frigatebird	1 -	S		high - ♂ ad.

Seems observations  
observed 1842



Ship  
Direction

SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

~~2 July~~  
P. J. Gould

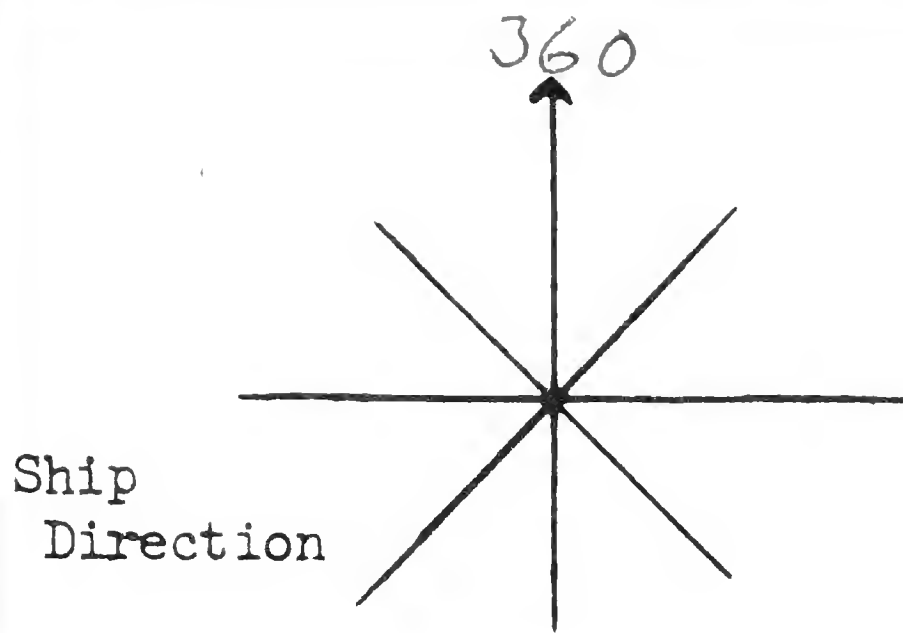
Date 02 July 1967  
Pg. # 1

SPECIMEN  
or

sunrise = 0614

begin observations = 0620

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
0620	Pterodroma	1	on H <sub>2</sub> O		All dark, underwing all dark, but appeared to have grey high lights, size between Black-wing and Juan Fernandez
0636	Pomarine Jaeger	1	⊙ light phase		
0641	Wedge-tail Shearwater	1	W dark phase		
0646	Kermadec Petrel	1	E intermediate phase		
0647	Juan Fernandez Petrel	2	on H <sub>2</sub> O molting		
0648	" "	1	⊙ "		
0649	Shear/pet	1	on H <sub>2</sub> O		
0654	Shear/pet	1	⊙		
0655	Juan Fernandez Petrel	1	on H <sub>2</sub> O		
0659	Shear/pet	1	⊙		
0659	"	1	⊙		may have been on H <sub>2</sub> O with the JFP
0603	Black-wing Petrel	1	on H <sub>2</sub> O		
0730 to 0745	NO OBS				Change course to <del>020</del> 360° at 0720
0755	Juan Fernandez Petrel	1	on H <sub>2</sub> O molting		
0805	Wedge-tail Shearwater	1	⊙ dark phase		
0806	Juan Fernandez	1	⊙		
0837	" "	1	⊙ molting		probably just got up off H <sub>2</sub> O
0837	Wedge-tail	1	⊙ molting		DARK phase " " " " "



SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

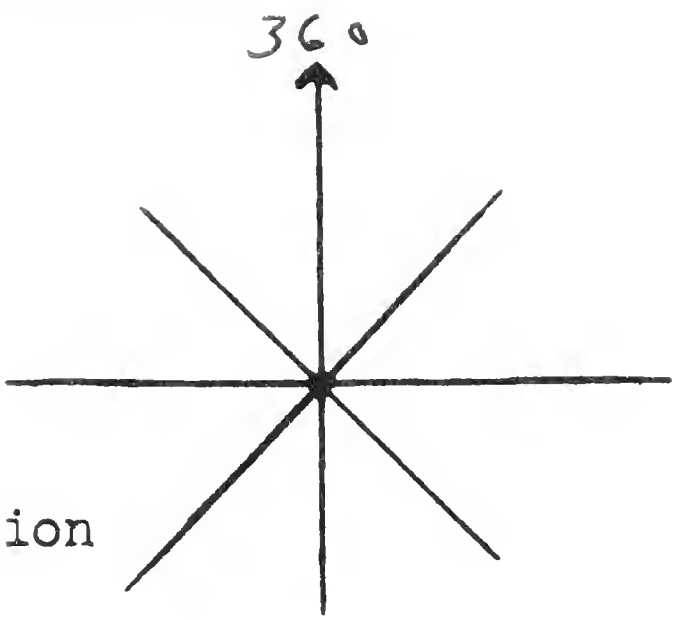
P. Gould

Date 02 July 1967  
Pg. # 2

SPECIMEN  
or

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
0848	from Terns Petrel	1	E	molting	
0852	" "	1	E	molting	
0900	from Terns Petrel	3			feeding on flying fish, one large turn surged over birds. birds arc high in air, chasing fish by dropping & gliding over surface
	Phoenix / or Tahiti Pet	1			
0906	from Terns Petrel	2	@	molting	
0906	white-neck Petrel	1	@		no molt - underwings not seen well enough, but white collar as large as well defined
0908	wedge-tail	1	E		dark phase
0916	Leach Petrel	1	@		well seen
0917	from Terns Petrel	1	@	molting	
0922	" "	1	@	molting	
0923	wedge-tail Shearwater	1	SE		light phase - no molt
0932	from Terns Petrel	1	@	molting	
0937	wedge-tail Shearwater	2	SE		0924 - two turtle rising far in advance of rain squall Dark phase
rain 0940 to 0954	from Terns Petrel	3	N N20	molting	
0953	"	1	"	"	
0959	"	1	@	"	
	wedge-tail?	1	@	light phase?	
1000	wedge-tail shearwater	1	S	dark phase	
1005 to 1007	Flock				feeding in distance, birds mostly silhouettes
	Terns	6	@		probably Sooty Terns
	Shear/Pet	4±2	@		several looked like wedge-tails from flight & outline





Ship  
Direction

SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

*P. J. Gould*

Date 02 July 1967  
Pg. # 3

SPECIMEN

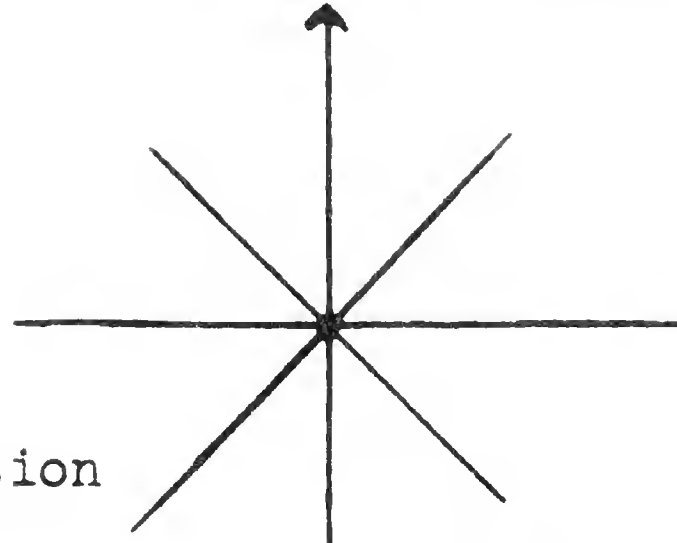
or

TIME SPECIES # DIR. BAND NO. REMARKS

	1014	Black-winged Petrel	1-	S	molting	
	1025	Swainson's Petrel	3-	on H <sub>2</sub> O	molting	
	1030 to 1407	NO observations				oceanographic station } mostly rain
1407 ↑ HEAVY RAIN ↓	1418	Pterodroma	1	⊙		1407 - resume full speed in light rain at edge of squall
1420 1418 ↑ light rain ↓	1425	Wedge-tail Shearwater	1	on H <sub>2</sub> O		light phase - in light rain
1432 1440 ↑ rain ↓	1452	Sooty Tern	2-	S to SE		adult - flying in rain
	1500	Giant Petrel	2-	on H <sub>2</sub> O		flushed ca. 500 yds in front of ship, flew away from ship with heavy wing beats and glides, in typical Procellariid fashion, but I did not see them as much. They were huge, easily larger than the albatross I'm familiar with. The body appeared very heavy, chunky, and the wing broader and shorter than albatross wing. Color appeared mottled as if molting, especially on wings, general color appeared brownish with lighter head + perhaps breast, belly not seen, bill not seen. I feel quite sure of the identification. off.
	1525	Shearwater	1	NW	light belly, large size	
	1530	Wedge-tail Shearwater	9	on H <sub>2</sub> O	in heavy rain flushed by ship at least 1 light phase but several looked dark phase	
						But were in the rain so the light although uniform (no glare) was low.

2  
19  
18  
34  
20  
91

360



Ship  
Direction

SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

*Pf Gould*

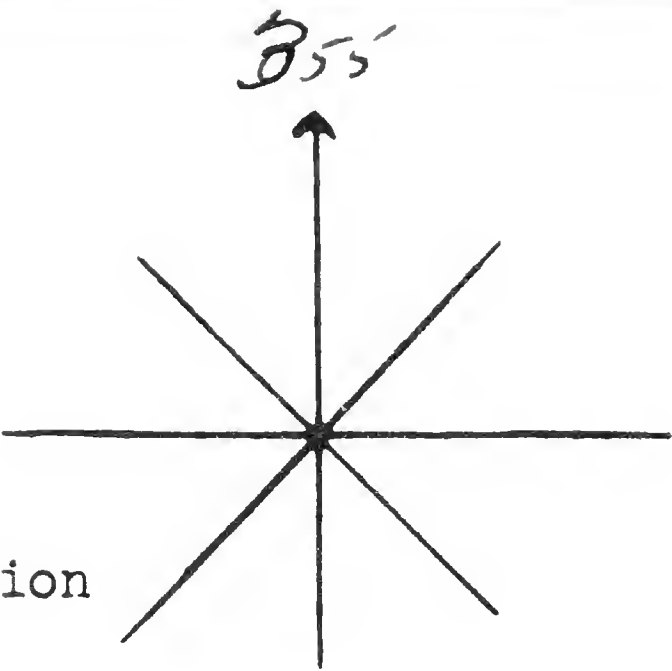
Date 02 July 1967  
Pg. # 4

SPECIMEN  
or

	TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
SAME BIRDS	1533	from Fennel Petrel	9	on		
		Wedge-tail Shearwater	(2)	H <sub>2</sub> O		dark phase flushed by ship in heavy rain
	1535	from Fennel Petrel	(13)			
		Wedge-tail Shearwater	1	(C)		in heavy rain, flying from opposite side of ship from last group. Some group?
	1543	Shear/pet	1 (C)	(C)		visibly ca. 500 yards in heavy rain
	1546	from Fennel Petrel	1	W		heavy rain
	1550	"	1	W		heavy rain
	1550	Shearwater	1	W		" molt
	1600	NO				
	T <sub>0</sub>	observations				oceanographic station
	1745					
	1813	Shearwater/or Petrel	1			full speed resumed at 1745
	1826	from Fennel Petrel	1	W		on horizon
						molt

Secured observations  
at ca. sunset 1848





Ship  
Direction

SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

*P. J. Gould*

Date 03 July 1967  
Pg. # 1

SPECIMEN

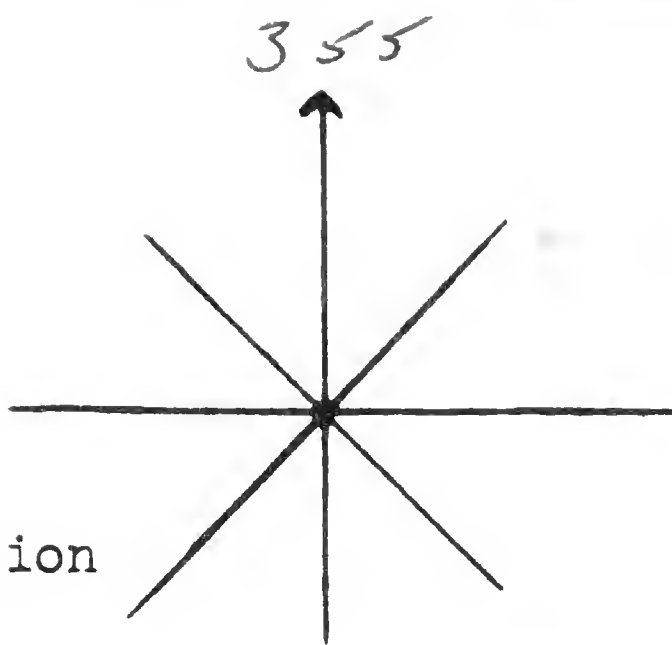
*sum 0609*

or

*begin observation 0605*

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
0641	Common Noddy Tern	✓	S		
0703	Flock				
to 0705	from Fennel Petrel	10 F2	⊙		feeding in light, dragging rain
	Wedge-tail Shearwater	3 ± 1	⊙		dark phase
	Small Pterodroma	1 -	⊙		
0712	Small Pterodroma	1 -	S		
0717	Shear/Pet	1 -			
0746	Wedge-tail Shearwater	1 -	W		dark phase
0758	from Fennel Petrel	1 -	S	no molt	
0800	shear/Pet	1 -	W		
0816	Shearwater	1 -	⊙		white below
0821	Leach/or Harlequin Pet	2 -	⊙		flew like Leach's
0835	shear/Pet	1 -	⊙		white below
0836	Wedge-tail Shearwater	1 -	E		dark phase
0850	from Fennel Petrel	1 -	on H <sub>2</sub> O	molting	
0902	Leach/or Harlequin Pet	1 -	⊙		flew & looked like Leach's
0919	Leach/or Harlequin Pet	4 -	on H <sub>2</sub> O		a lot of white on wing, flew like Harlequin
0951	from Fennel Petrel	1 -	on H <sub>2</sub> O	molting	in strong wind (but some fluttering wing beats). In this kind of weather Leach's fly with more heave ho in, more and more gliding.
1023	Leach Petrel	1 -	⊙		typical flight & appearance.
1030	" "	3 -	on H <sub>2</sub> O		" " " "

0730  
to 0746  
no observation.



Ship  
Direction

SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

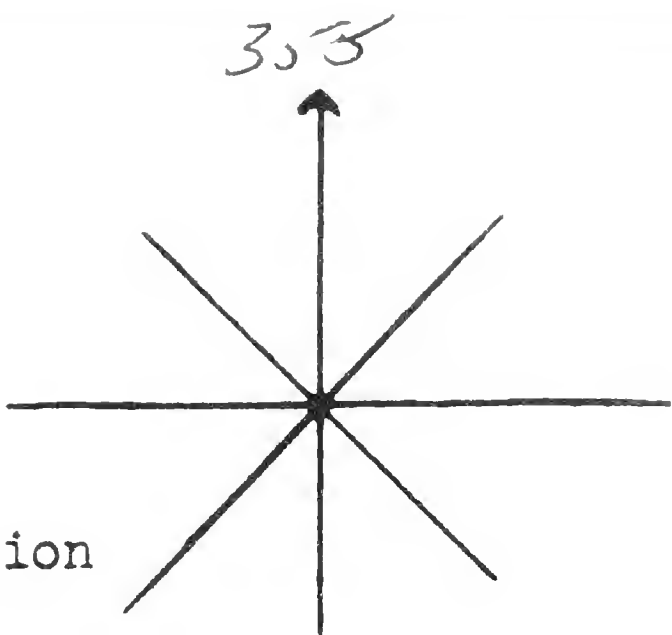
*P. J. Gould*

Date *03 July 1967*  
Pg. # *2*

SPECIMEN  
or

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
1030	20				
1440	Obs				
1443	Storm Petrel	2-	⊙		probably Leach's
1445	Leach Petrel	1-	⊙		
1449	" "	1-	⊙		
1454	Red-tail Tropicbird	4-	over ship → W		all adult, several partial breeding display attempts
1500	Storm Petrel	1-	E		
1503	Leach Petrel	1-	SE		
1503	wedg. tail Shearwater	1-	S		
1505	Storm Petrel	1-	⊙ E		
1506	" "	1-	⊙ E		
1508	Leach Petrel	1-	⊙ W		
1511	" "	2-	⊙ E		
1515	Storm Petrel	1-	⊙ E		
1516	" "	1-	⊙ E		
1517	" "	1-	⊙ W		
1520	<del>white-tailed</del> Tropicbird	1-	⊙		both circling together - <del>Red-tail</del> both adults
	Red-tail Tropicbird	1-			
1521	Storm Petrel	1-			
1523	Wedg. tail Shearwater	1-			right phase
1524	Phoenix/island Petrel	1-	E		
1526	Leach Petrel	2-	W		
1529	" "	1-	W		
1530	" "	1-	E		
1535	" "	2-	⊙		

Ship  
Direction



SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

P. J. Gould

SPECIMEN  
or

Date 03 July 1967  
Pg. # 3

TIME SPECIES # DIR. BAND NO. REMARKS

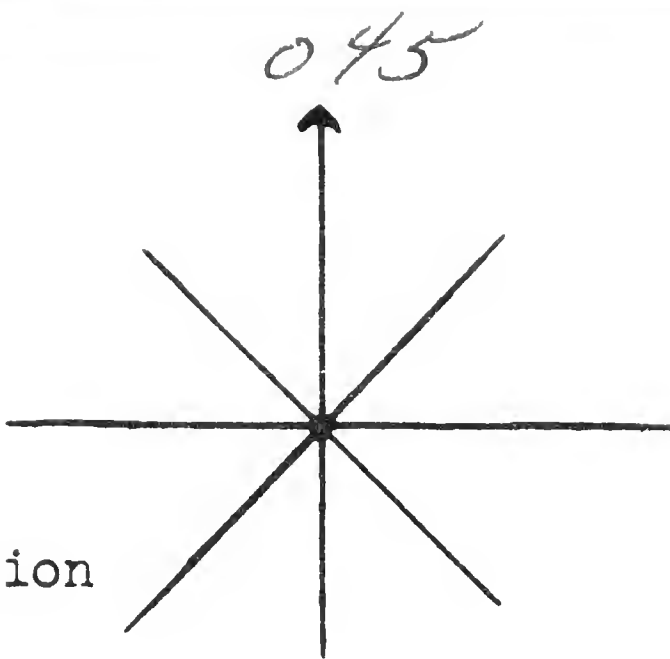
(see over side)

1538	Leach Petrel	1-	E		
1538	" "	1-	E		
1538	" "	1-	E		
1543	" "	1-	E		
1544	Storm Petrel	1-	E		
1550	Leach Petrel	1-	E		
1552	" "	2-	E		
1600	" "	5-	W		
1600 To 1720	NO Observations				ocean right gear Station
1725	Leach Petrel	2-	→		ship not moving
1730	<del>Wedge-tail</del>	1-	→	Dark Phase	
1733	Phoenix/ Tahiti Petrel	1-	⊙		
1733	Black-wing Petrel	1-	on the		flushed by phoenix/tahiti petrel. P/T petrel looked twice as big.
1739	Leach Petrel	1-			
1758	Leach Petrel	1-	NW		ship resume full speed at 1745
1805	" "	2-	NW		
1823	" "	2-	SE ⊙		
1826	" "	1-	⊙		
1826	Wedge-tail	1-	W	dark phase	
1827	" "	1-	W	" "	
1827	Leach Petrel	5-	⊙		actively feeding, ⊙ ⊙ ⊙
1828	" "	1-	⊙		
1829	" "	1-	⊙		
1829	" "	1-	⊙		
1840	" "	4-	N		
1840	shear/pet	1-	S		white below, large, slow flying
1846	Leach Petrel	1-	→W		sunset = ca. 1853
1849	Storm Petrel	1-	W		secure observations 1900



Nochland 2300 to 2330

2305 - Leach Petrel



Ship  
Direction

SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

*P. J. Gould*

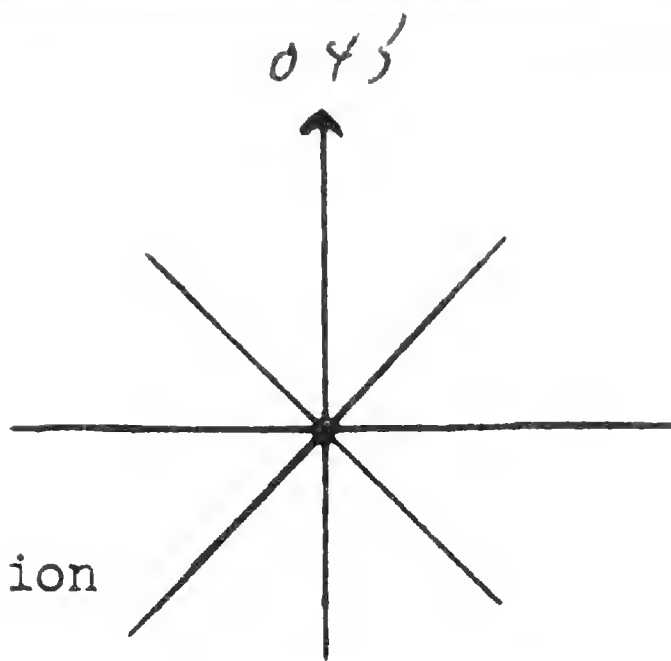
Date 04 July 1967  
Pg. # 1

SPECIMEN  
or

*sunrise = 0605*

*begin observations = 0600*

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
0635	Shear/Pet	1	?		white below, looked like small pterodroma?
0638	Levon Fernand Petrel	1	NW		molting
0658	wedge-tail shearwater	1	⊙		dark Phase
0704	Flock				actively feeding over school of jumping
0712	Shear/Pet	50±10	⊙		Tuna. Saw perhaps 10-20 fish jumping out of water near the boat. all I saw looked like Levon Fernand Petrel but they were too far away to be sure. Mate on watch who has had lot of commercial fishing experience estimated the flock to be about 1 mile away. I had also estimated the same distance, a somewhat less (3/4 to 1 mile) another man on watch who has had much less experience estimated ca 1/4 mile. This last man did not have binoculars and I thought that there were less than 10 birds in the flock. The mate, was also without binoculars, but <del>thought</del> there were more than that although he made no attempt to estimate the number present. The main reason the birds could be seen was that the sun was reflecting off their white underparts. They could only barely be made out when they turned their backs toward the sun. at this time they could only be seen when outlined against the sky.
0715	Levon Fernand Petrel	1	⊙		
0734	NO				
0745	observation				
0804	pterodroma	1	NW		probably S.F.P.
0815	Flock				actively feeding (no fish seen)
0819	Levon Fernand Petrel	13±3			
	wedge-tail shearwater	13±3			light Phase
	wedge-tail shearwater	1			dark Phase
0835	Levon Fernand Petrel	1	⊙		molting
0840	" "	1	⊙		molting
0849	" "	1	NW		
0904	" "	4	⊙		searching
0907	" "	1	NW		
0935	" "	1	⊙		
1015	Levon Petrel	1	⊙		
1030					oceanographic station ship stopped - bird reported flying around ship - apparently a Booby, perhaps blue-faced Booby
1415					



Ship  
Direction

SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

Pf Gould

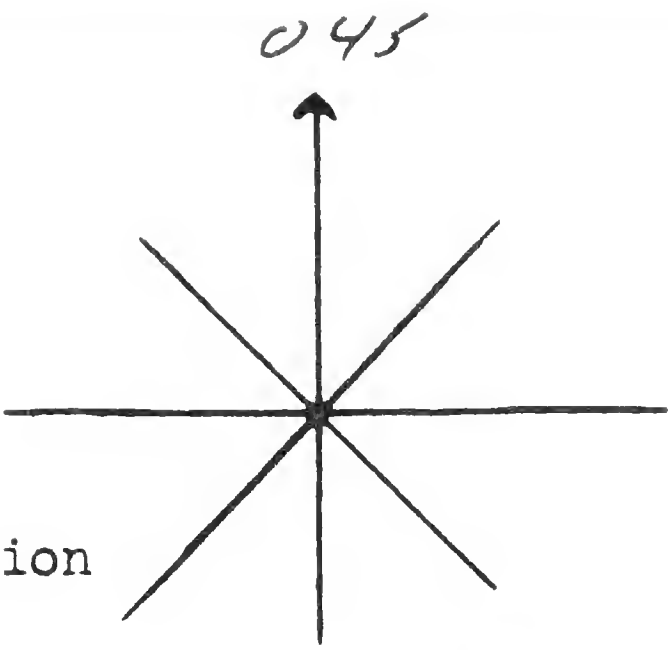
Date 04 July 1967  
Pg. # 2

SPECIMEN  
OR

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
1424	frigatebird Petrel	1-	⑤?		molting
1459	" "	1-	W		molting
1558	" "	1-	⑤		heavy rain squall 1535 to 1550
16.00 to 1740	no obs.				oceanographic station ship stopped 1700 - "Booby" reported but could not be described. 1715 - f saw a Pomarine jaeger ad. light phase.
1754	Shear/pet	1-	N		white below
1804	" "	1-			" " , at edge of rain squall
1805	" "	1-	on H <sub>2</sub> O		
1805	frigatebird Petrel	1-	"		
1827	" "	1-	"		molting
1842	Shear/pet	2-	"		

Secured watch at  
sunset 1852





Ship  
Direction

SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

*P. J. Gould*

Date *05 July 1967*

Pg. # *1*

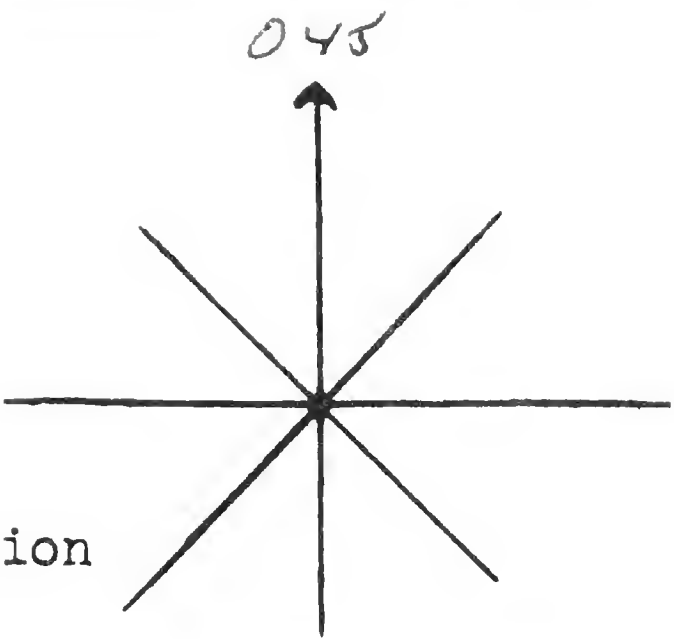
SPECIMEN

or

*sunrise = 0549*

*begin observations = 0546*

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
0549	Shear/Pet	1			white below
0635	" "	1			" "
0640	Immature Petrel	1	SE		
0643	Shear/Pet	1	SE		Probably Wedge-tailed Shearwater
0659	Blue-face Booby	1	⊙		collected
0723	Wedge-tailed Shearwater	1	⊙		dark phase
0730 To 0743	NO 065.				
0815	Immature Petrel	1	⊙		flying as if feeding, but can't be sure
0839	" "	1	SE		molting
0843	Shear/Pet	1	S		most likely Immature Petrel
0859	Immature Petrel	1	SE		molting
0905	Wedge-tail Shearwater	1	→		dark phase
0909	Shear/Pet	1	?		
0925	Immature Petrel	1	S		
1000 To 1350	NO obs				blue-faced booby reported at ca. 1330
1455	Immature Petrel	1	SW		molting
1510	" "	1	?		molting
1533	" "	1	S		
1537	Wedge-tail Shearwater	1	S		dark phase, no molt, plumage looked new
1544	" "	1	SW		dark phase and black



Ship  
Direction

SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

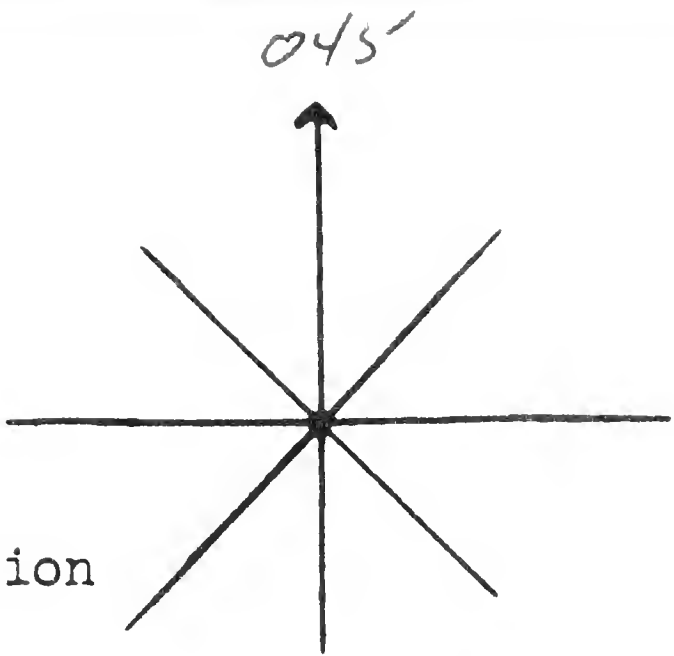
R. J. Gould

Date 05 July 1967  
Pg. # 2

SPECIMEN  
or

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
1600 To 1745	no obs.				
1807	Juan Fernandez petrel	1	ND SE		
1817	" "	1	H <sub>2</sub> O → NW		
1826	" "	1	H <sub>2</sub> O		
1828	" "	1	" H <sub>2</sub> O		

Second watch  
at sunset 1847  
green flash!



Ship  
Direction

SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

*P. J. Gould*

Date 06 July 1967  
Pg. # 1

SPECIMEN  
or

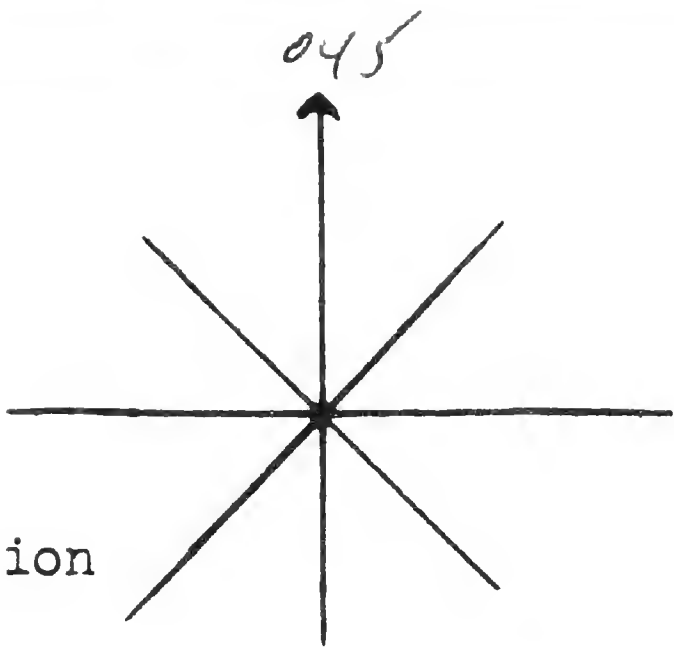
*sunrise - 0539*

*begin observations = 0545*

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
0615	Shear/Pet	1-	NE		white below, probably <i>pterodroma</i>
0626	Leach's Petrel	1-	NW		
0628	Wedge-tail Shearwater	1-	NW		dark phase
0644	" "	1-	NW		dark phase
0648	" "	1-	NW		dark phase
0720	Leach's Petrel	1-	SW		
0730	NO				
0750	NO				
0750	blue-face booby	1-	feeding		adult? (has been around since 0730) has a few dark feathers toward the wing area but otherwise looks fully adult. 0810 = bird departed
0755	Leach's Petrel	1-	W		
0854	Wedge-tail Shearwater	1-	on 420		dark phase
0859	Red-billed Tropicbird	1-	on 420		adult. looks smaller than Red-tail
0942	Wedge-tail Shearwater	1-	⊙	Dark Phase	and flies lightly, sometimes in flight between Red tail & White tail. (bill bright red, back flecked with black, long dark feathers.
0953	Leach's Petrel	1-	SW	molting	
0957	Pomarine Jaeger	1-	E	Ad. Dark Phase	
0958	Leach's Petrel	1-	NW		[0910 - Turtle - Don Wooster]
1012	Wedge-tail Shearwater	1-	⊙	Dark Phase	[1002 - Turtles (2) fairly round with smooth backs, green algae growing on backs. one chasing fish swimming beneath board.]
1026	" "	1-	⊙S	"	
1026	Shear/Pet	1-	⊙S		



Ship  
Direction



SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

PJ Gould

Date 06 July 1967  
Pg. # 2

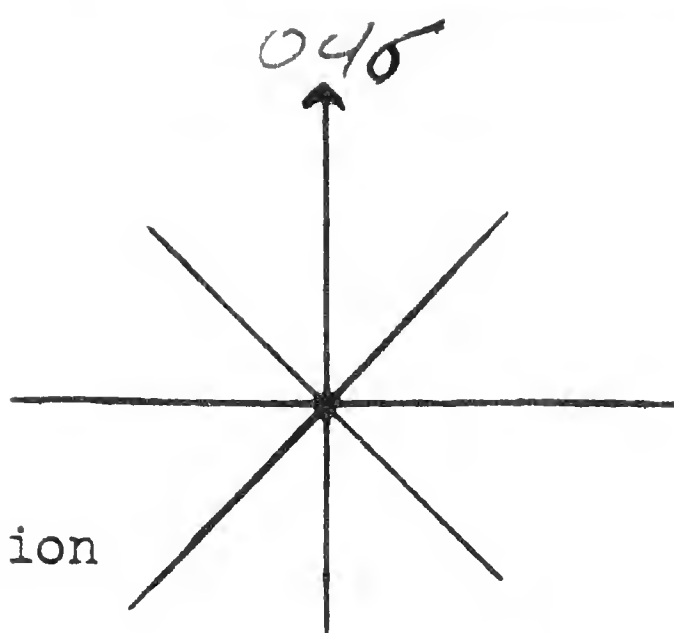
SPECIMEN  
or

TIME SPECIES # DIR. BAND NO. REMARKS

1030 To 1445	NO obs.				1200 - 1 Blue-face Booby (sub-adult) sitting in H <sub>2</sub> O  oceanographic station
1453	Townsend's Shearwater	1-	SE		couldn't be distinguished from Laysan's, by dorsal view
1503	Shear/Pet	2-	SE		a little below,
1516	Leach Petrel	1-	near N		
1521	Townsend's Shearwater	1-	SE		underwings with relatively thick dark border - broader than Laysan's wing coverts seem a trifle more rounded than Laysan's
1604 To 1747	NO obs.				Stopped for Oceanographic Station Leach Petrel and a Shearwater flew by ca <del>1843</del> 1830
1801	Wedge-tail Shearwater	1-	near NW		dark Phase
1822	" "	1-	near W		dark Phase

Leave observation at sunset  
1843

Ship  
Direction



SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E


OBSERVERS:

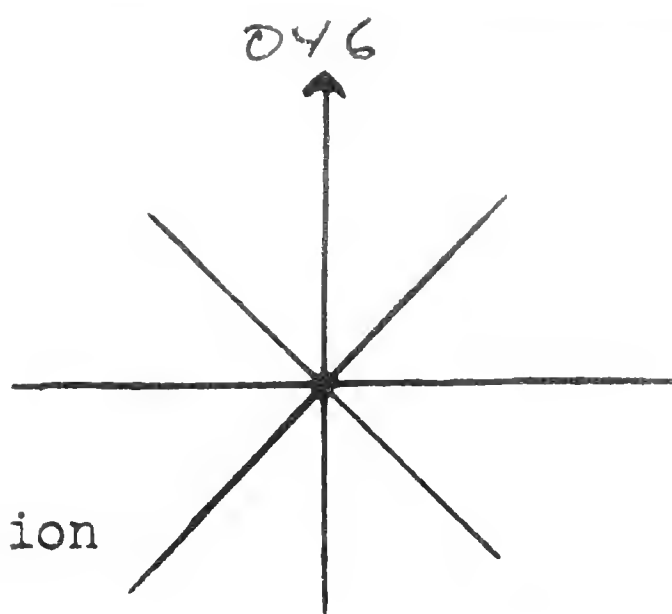
*P. J. Gould*

SPECIMEN  
or

*Sunrise = 0528*

Date *07 July 1967*  
Pg. # *1*

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
					<i>begin observations = 0540</i>
0600	Shearwater	1	NE		<i>large</i>
0610	Pilot white	20+-	SW		<i>moving slowly</i>
	Shear/Pet	2			
0614	Blue footed <del>Booby</del>	1	SW		<i>one came in out of water (keeping tail down) or I saw the surface with entire body, not jumping, or diving.</i>
	Booby	Sub ad.			<i>upper part solid chocolate brown, head brown but throat, breast, &amp; abdomen white, cerebrae dark, but center area lighter. Sub adult?</i>
0638	Tern	1	SE		
0647	Shearwater	1	W		
0720	"	1			<i>large</i>
0721	"	1			<i>large</i>
0730 To 0750	<i>no observation</i>				
0820	Booby	3	SW		} <i>Blue-footed (not blue-footed) or Brown?</i>
0820	"	1	NE		
0820	"	4	SW		
0821	"	1	SW		<i>looked like Blue-footed but light very bad from the large size &amp; flight pattern &amp; suspect these are Blue-footed Boobys, but I can't be sure till I get a good look.</i>
0825	"	5	SW		
0826	Blue-foot Booby	1	SW		
0827	Booby Shearwater	1	"		
0828	Booby	2	"		
0828	Booby	2	"		
0828	Tern	1	"		
0828	Booby	3	"		
0829	Booby	1	"		
0830	"	3	"		
"	"	1	"		
"	"	3	"		
"	"	4	"		
"	"	2	"		
0831	"	1	"		
0831	Tern	1	"		
0831	Shearwater	1	NE		



Ship  
Direction

SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

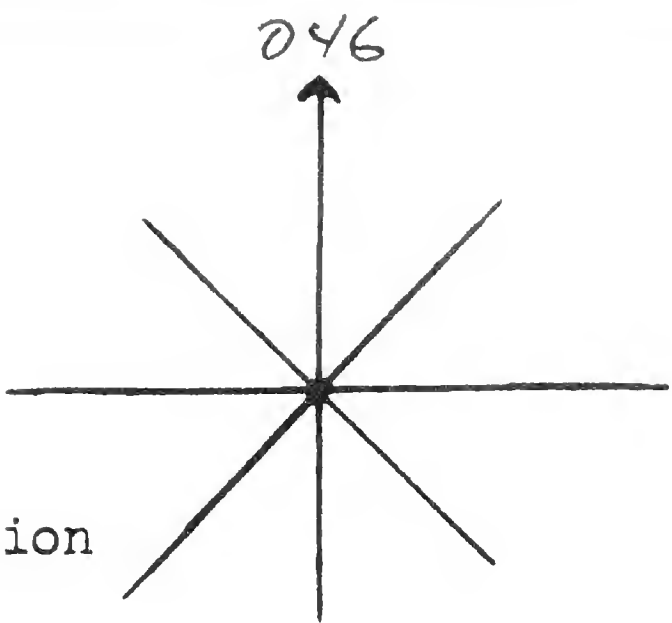
*P. J. Gould*

Date 07 July 1967  
Pg. # 2

SPECIMEN  
or

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
0832	Booby	5-	SW		
0833	<del>Tern</del> Shearwater	1-	NE		<del>white below</del> To the best that I can judge
0834	Booby	1-	SW		in this poor light (glare from sun off of
0834	"	1-	"		smooth water) there are <del>Blue-footed</del> <sup>Brown</sup>
0834	"	3-	"		Boobies - all are in the sun and by
0835	Tern	1-	NE		the time I can see them away from the
0843	Booby	1-	SE		sun they are too far away to identify. some
0846	"	1-	S		are coming within 5000 yards of the ship.
0850	Booby	1-			
0900	Brown Booby	2-		Ad	[on back of Turtle] all sitting on log big turtle beneath water
	<del>Blue-footed</del> Booby?	2-		Ad	
	Booby	2-		Imm	
0909	Blue-footed Booby	1-	SW	Ad	
0911	Booby	4-	SW		
0911	Shearwater	1-	⊙		white below, chunky. looked like Townsend
0915	Booby	1-	SW		but light poor
0916	"	1-	SW		[0911 - turtle]
0924	Shearwater	1-	⊙		flew like Townsend, but could only see silhouette.
0924	Booby	4-	SW		silhouette like Townsend.
0932	Tern	1-	⊙		feeding - over school of fish (Tuna?)
0932	Shear/pet	1-	⊙		
0934	<del>Shearwater</del> Brown Booby	1-	N H <sub>2</sub> O	Ad J	
0940	Brown Booby	1-	N H <sub>2</sub> O		sitting on a turtle
0944	Booby	1-	N H <sub>2</sub> O		" " " "
0944	Storm Petrel	1-	⊙		
0944	"	1-	⊙		
0950	Townsend? Shearwater	6-	N H <sub>2</sub> O		
0950	Storm Petrel	1-	⊙		





Ship  
Direction

SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

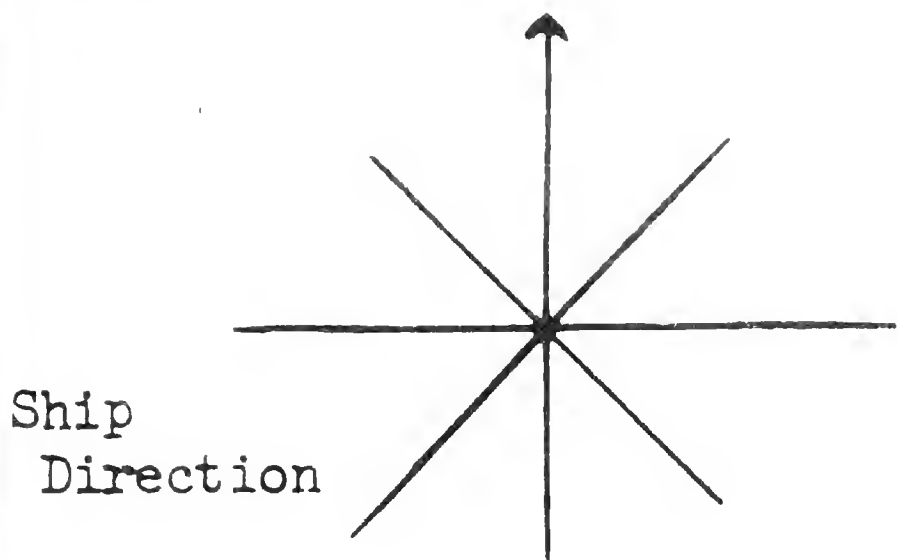
*P. Gould*

Date 07 July 1967  
Pg. # 3

SPECIMEN  
or

TIME SPECIES # DIR. BAND NO. REMARKS

0950	Shearwater	4 -	m H <sub>2</sub> O		
0952	Booby Shearwater	1 - 2 -	m H <sub>2</sub> O		
0955	Sooty Tern	1 -			sitting on a Turtle
0950 to 1015	Flock				Feeding, actively
	Porpoise	200 ±			large school of spinner Porpoise
	Brown Booby	600 ± 700			also feeding,
	Sooty Tern	300 ± 50			not ca 80% adult
	Townsend Shearwater	150 ± 25			at least 4 immatures seen One Brown Booby appeared to have a yellow leg streamer.
1027	Brown Booby	2 -	SW		
1027	Townsend Shearwater	3 -	m H <sub>2</sub> O	Ad	
1020	Brown Booby	4 -	m H <sub>2</sub> O	Ad.	
1030	Storm Petrel	2 -			flew like Leach's
1030 to 1420	NO Obs.				course change to 054 1422 = 2 turtles copulating
1432	Brown Booby	2 -			
1442	" "	6 -			
1442	Tropicbird	2 -			
1448	Brown Booby	3 -			
1448	Masked Shearwater	2 -			
1445	Red-footed Booby	1 -	m H <sub>2</sub> O		brown above, not much in way of white rump patches
1445	" "	1 -			
1445	Brown Booby	4 -			
1445	" "	1 -			



Ship  
Direction

SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Date

Pg. # 07

SPECIMEN  
or

TIME SPECIES # DIR. BAND NO. REMARKS

1445 Brown Booby 1 - ad

1450 " " 1 - ad

1447 " " 5 - 4 ad, 1 imm

1447 sea snake (several were seen earlier since 1400)

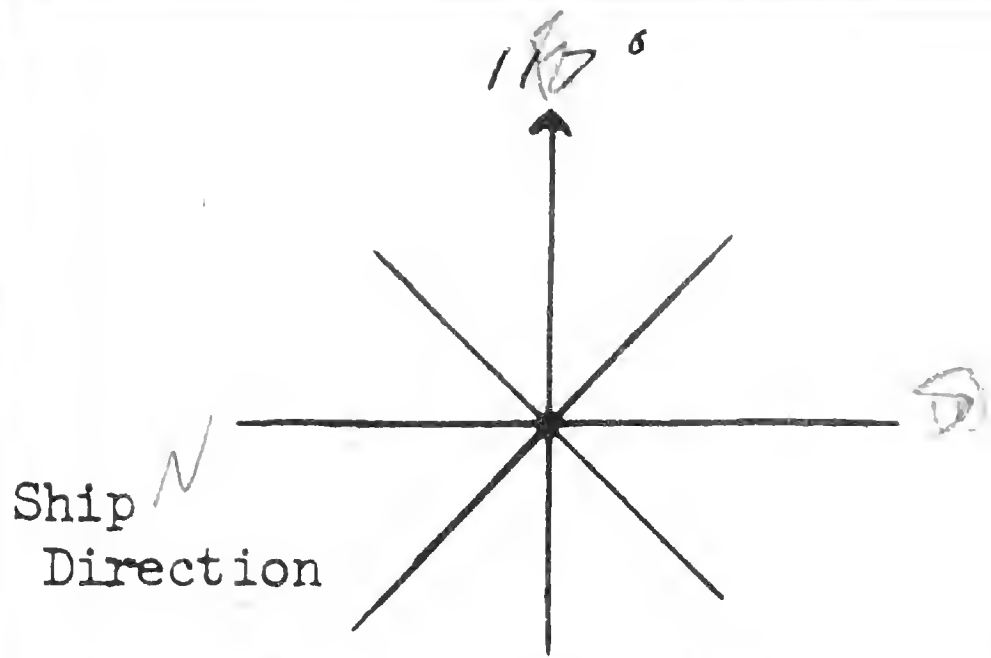
1506 Laughing Gull 1 ad in breeding plumage on tail

1520 " 1 " " " " "

several sea snakes & Brown Boobies, 1 imm, since ~~1500~~ 1500

1540 5 or 6 spotted Dolphin (Stenella graffmani)

followed ship for a few minutes



Ship  
Direction

SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

P. Gould

Date 10 July 1967  
Pg. # 1

SPECIMEN  
or

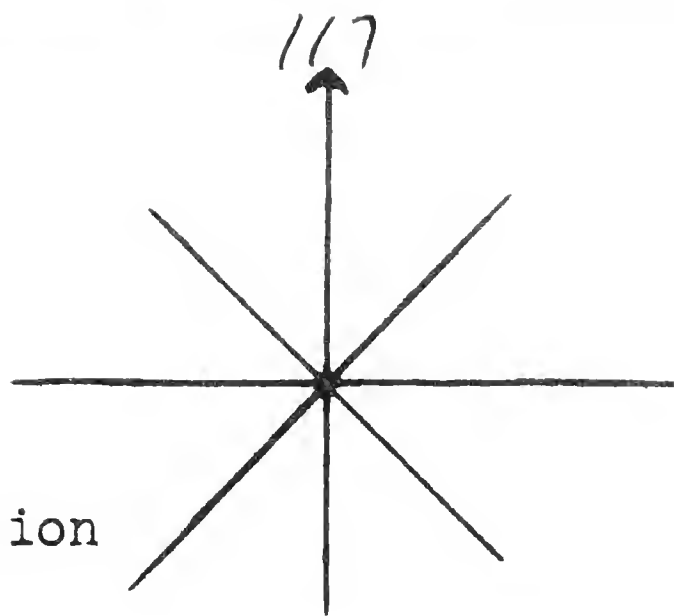
sunrise = 0522

begin observation = 0635

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
0645	Flock Booby Tern Shearwater	20±5 <del>20±10</del> 20±20 175			actively feeding Probably Brown Booby Probably Sooty Tern Flew like & were right size for Manx. Poor light, all flocks even seen was silhouette
0714	Flock Shearwater	24±2	⊙		[0650 - 0710 = rain squall] Flew like & were right size & shape for Manx Probably feeding
0730	Parasitic Long-tail Jaeger	1	⊙		
0740	Manx Shearwater	1	⊙		
0746 TO 0758	NO obs.				
0805	Booby	1	→		
0808	many Shearwater	3	↙		
0809	Brown Booby	1	→		
0812	"	1	→		
0814	"	1	→		
0815	Tropicbird	1	→		
0818	Brown Booby	1	↘		
0819	many Shearwater	1	↘		
0820	" "	6			circling then lit, one by one, near each other on water
0824	" "	3	→	on H <sub>2</sub> O	
0829	" "	2	↖		
0830	" "	1	←		
0830	Brown Booby	1	←		



Ship  
Direction



SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

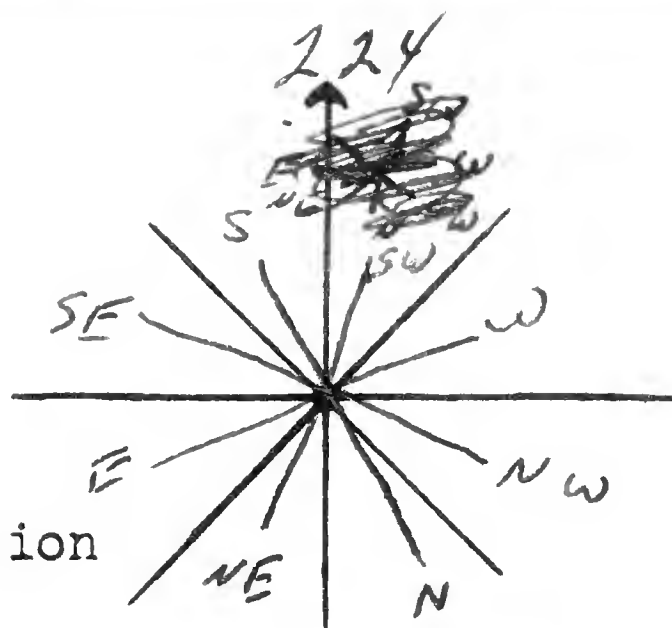
*1/2 Gould*

Date *10 July 1967*  
Pg. # *2*

SPECIMEN  
or

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
0831	Booby	1	→		[0837 - Two Turtles copulating]
0835	Shearwater	1	←	small	
0842	Brown Booby	1	⊙	ad.	
0850	Booby	5	→		
0852	Brown Booby	2	→	1 ad, 1 im	
0853	Booby	1	⊙		There is a lot of dead, fresh water, vegetation, floating in this area.
0856 to 0904	Flock				
	Brown Booby	20±5			
	Sooty Tern	2		1 ad, 1?	
	Manx Shearwater	75±10			
					dark brownish backs. This color is again achieved like newells
0905 to 1350	no obs				
1400	Brown Booby	1			Immature - all brown color
1405	Sabine's Gull	22	on H <sub>2</sub> O		all adults but only 2 had black heads
1413	Brown Booby	1	on H <sub>2</sub> O	ad.	
1416	" "	1	on H <sub>2</sub> O	- ad	
1422	Sooty Tern	1	sitting		standing on head of Turtle
1449	Brown Booby	1	↓	ad.	[1432 = Turtle]
1454	" "	1	→	ad.	
1456 to 1710	no obs.				

Secure Watch 1730



Ship  
Direction

SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

*P. Gould*

Date 11 July 1967  
Pg. # 1

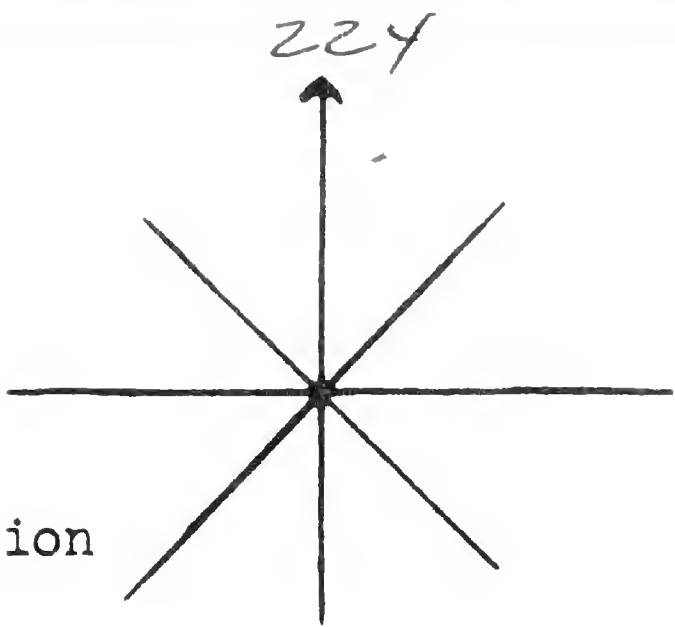
SPECIMEN  
or

sunrise = 0519

begin observations = 0510

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
TO 0519	Ship stopped				Immature Brown Booby flying around ship since 0455, landed on antenna 0515. Ship stopped for oceanographic station till 0519. Slow speed for Plankton tow till 0543
0519	Brown Booby	1	on antenna		
0524	Brown Booby	4	@ Imm.		
0530	Booby	3	@		Booby on Antenna flew out to join 4 Boobys at 0524 and departed with them
0535	birds	5			Joined previous 4
Full Speed at 0543					
0550	Jaeger	3	@		
0550	Booby	1	@		
0550	Birds	10 ± 3	on H <sub>2</sub> O		
0552	Shear/Pet	2	@		
0559	" "	1	SW		
0605	Red-footed Booby?	3	300 yds		white below, mostly light wings, tail
0610	"	1	"		1 ad, 2 all brown grey imm. head & neck white
0616	"	1	"		Joined above 3 subadult
0616	Wedge-tail Shearwater	1	W		Joined above "
0635	Birds	2	S		light phase
0646	Least Shear Petrel	1	SW		white below, small ship vibrating so much. I can't well focus on it
0700	Shearwater	1	@		
0701 TO 0720	NO OBS				

Ship  
Direction



SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

*V. J. Gould*

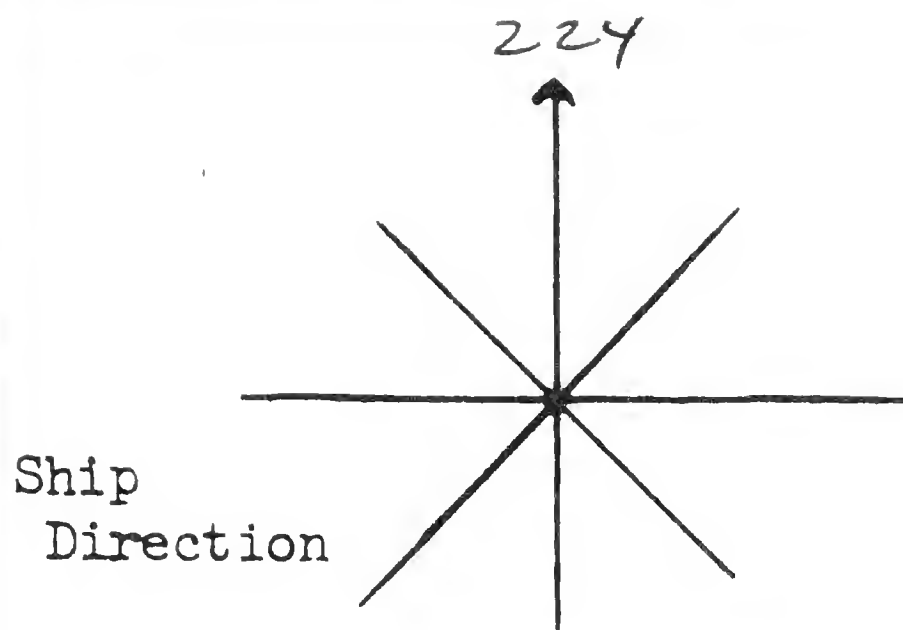
Date 11 July 1967  
Pg. # 2

SPECIMEN  
or

TIME SPECIES # DIR. BAND NO. REMARKS

0730	Pterodroma	2			a white below
	"	1	S		all dark + larger than above two
0739	Leach Petrel	4	→ SE		
0745 To 0815	NO Observed.				
0820	Leach Petrel	3	→ S		
0823	"	1	⊙ SE		
0825	Sooty Tern	1	red		} Feeding
	Pterodroma	1			
	Shear/Pet	1			
0828	Phalaropes	4	NE		traveling
0849	Leach Petrel	2	⊙		
0855	Shear/Pet	2	SE		small, white below, back green = dark Shearwater
0858	Wedge-Tail Shearwater	1	SE		dark phase
0900	Terns	2	E		Probably Sooty Tern
0901	Pomarine Jaeger	2	⊙		light phase
0902	Leach Petrel	1	⊙		
0912	"	1	⊙		
0915	Shear/Pet	1	⊙		
0919	Leach Petrel	1	N		
0939	"	1	SE		no molt apparent





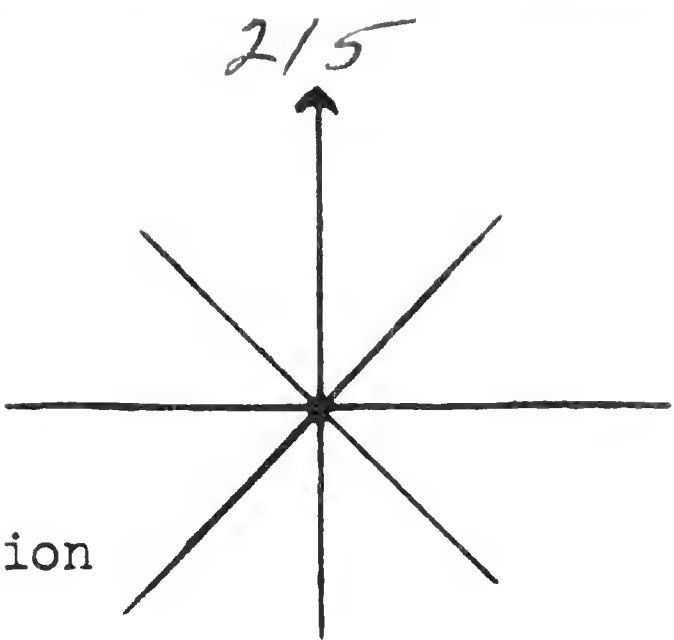
SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

P. Goebel

Date 11 July 1967  
Pg. # 3

TIME	SPECIES	#	DIR.	SPECIMEN or BAND NO.	REMARKS
0946	Wedge-tail Shearwater	1	N	dark Phase	0944 [ 2 turtles copulating, smaller one on top ]
0953	Shear/Pet	2	S		white below, large, but guess = from Tern only, Petrel
0957	Flock				Foraging, & Feeding;
	Red-foot Booby	3	NE	Imm	
	Jaeger	1	N		joined flock while I was watching
	Masked Shear	1	⊙		Immature birds all dark brown but with
	Booby	2	⊙		lighter brown bellie & distinct line of
	Shear/Pet	5 ± 2	⊙		delineation between breast & bellie
1002	Masked Shear.	1	⊙		
1008	" "	6	N		flushed by ship
1009	Wedge-tail Shearwater	1	E	dark Phase	
1010	Shear/Pet	1	E		
1010	Shear/Pet	1	⊙		
1011	" "	1	S		small, white below
1012	" "	1	S		large, " "
1018	Large Pterodroma	1	SE		either from Tern only or a little-weed or Dark rumped
1021	Shear/Pet	2	S		couldn't be sure about underwing - looked like it had a dark border -
1030 TO 1400	NO obs.				
1411	Shear/Pet	1	E		Course now 215
1413	Wedge-tail Shearwater	1	E	dark Phase	
1420	" "	1	E	dark Phase	
1421	from Tern only Petrel	1	N		
1421	" "	1	"		



Ship  
Direction

SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

*P. J. Gould*

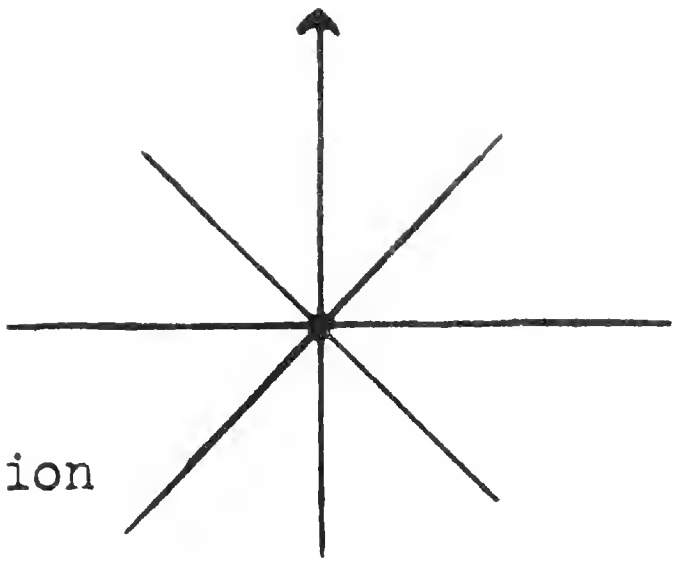
Date 11 July 1967  
Pg. # 4

SPECIMEN  
or

TIME SPECIES # DIR. BAND NO. REMARKS

1430	wedge-tail shearwater	3	on H <sub>2</sub> O	dark phase	
1432	"	1	⊙	_____	Probably on H <sub>2</sub> O - no molt apparent
1432	fronternody Petrel	1	⊙	_____	Probably on H <sub>2</sub> O - no molt apparent
1436	wedge-tail shearwater	1	E	dark phase	
1437	fronternody Petrel	1	E	_____	molting
1446	" "	30±5	⊙	many molting	SCATTERED
<del>1446</del> 1500	Wedge-tail shearwater	4	⊙	dark phase	<del>Scattered</del> Flock many birds on water
<del>1446</del> 1500	Small Pterodroma	2	⊙		
<del>1446</del> 1500	Booby	1	⊙		Imm light brown all over (not Snow Booby)
					(most birds drifting East)
1504	Pomarine Jaeger	1	E	ad -	light phase
1505	fronternody Petrel	2	NE	_____	no molt apparent
1506	Blue-face Booby	2	E	_____	1 ad, 1 sub ad.
1509	wedge-tail shearwater	1	E	dark phase	
1509	" "	1	E	" "	
1515	" "	1	⊙	" "	
1518	fronternody Petrel	1	⊙		
1522	" "	1	⊙		
1524	" "	1	⊙		
1536	" "	1	⊙		
1537	wedge-tail shearwater	1	E	dark phase	
1540	" "	2	on H <sub>2</sub> O	" "	

Ship  
Direction



SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

*Pf Gould*

Date 11 July 1967  
Pg. # 5

SPECIMEN  
or

TIME SPECIES # DIR. BAND NO. REMARKS

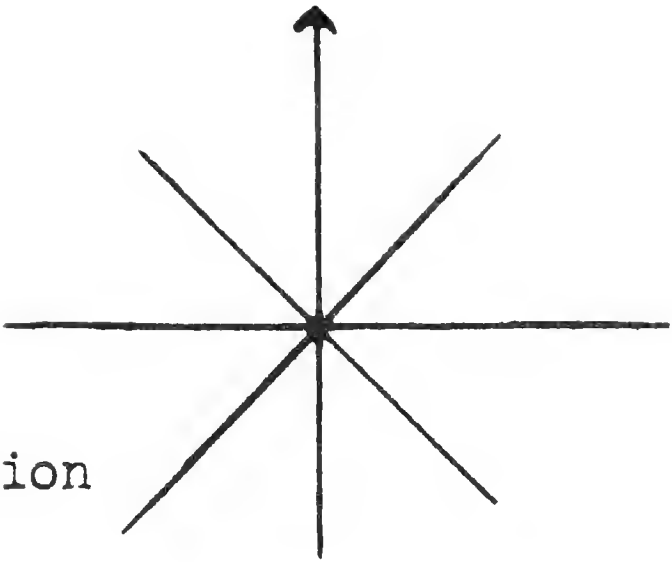
1542	wedge-tail shearwater	1	-	@	dark phase	probably on H <sub>2</sub> O
1543	frigatebird Petrel	1	-	@	no apparent molt	"
1544	wedge-tail shearwater	1	-	@	dark phase	"
1546	frigatebird Petrel	1	-	m H <sub>2</sub> O		
1548	booby shearwater	1	-	m H <sub>2</sub> O		
1551	Manx Shear.	1	-	E		
1553	frigatebird Petrel	1	-	m H <sub>2</sub> O	no apparent molt	
1554	" "	1	-	m H <sub>2</sub> O	" " "	
1555	" "	2	-	m H <sub>2</sub> O	molt	
1556	Red-billed Tropicbird	1	-	E		
1558	frigatebird Petrel	1	-	E	molt	

1600 to 1727 obs. *High brown. Gulls (all brown, not blue-gray) seen and.*

1727					slow speed not low	
1734	frigatebird Petrel	1	-	@		
1735	" "	1	-	@		
1738	Shear/Pet	1	-	@		
1739	" "	1	-	@		
1740	Booby	1	-	@	dark - all brown, later below & on head	
1742	Booby	2	-	m H <sub>2</sub> O	" " " " " "	
1748 to 1802	Flock frigatebird Petrel	200 ± 50			actively feeding	high [Ship navigable compasses we were 2 miles from shore when it was first seen]
	Shear/Pet	100 ± 50			Probably also fFP's.	SI-MNH-958-e Rev. 5-66

birds scattered widely around core of 200 active feeders.





Ship  
Direction

SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

*[Signature]*

Date 11 July 1967  
Pg. # 6

SPECIMEN  
or

TIME SPECIES # DIR. BAND NO. REMARKS

1815

Flock  
glau/rel

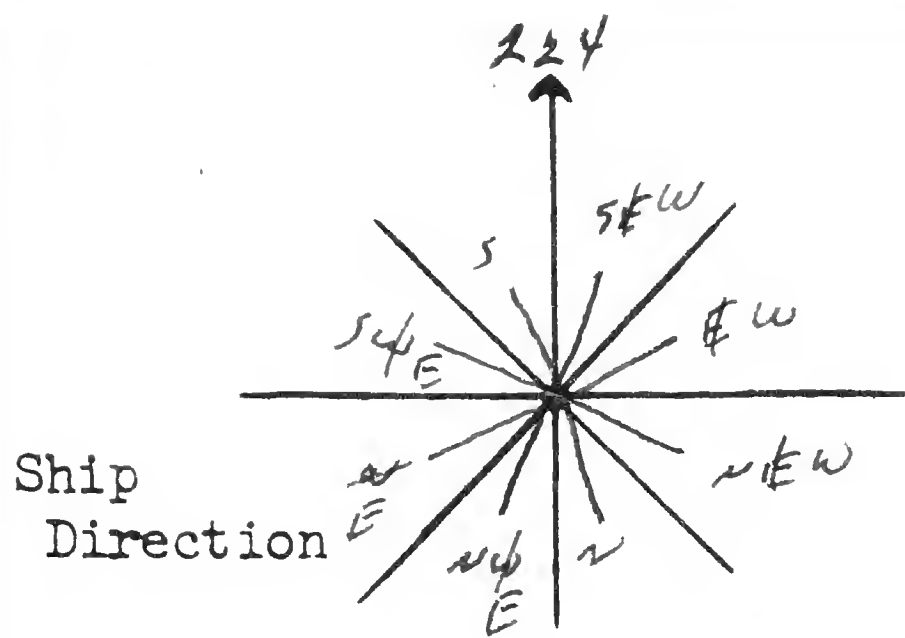
~~102~~  
1052

⊙

sketching

*Seas were G at sunset*

1822



Ship  
Direction

SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

*P. Gould*

Date *12 July 1967*  
Pg. # *1*

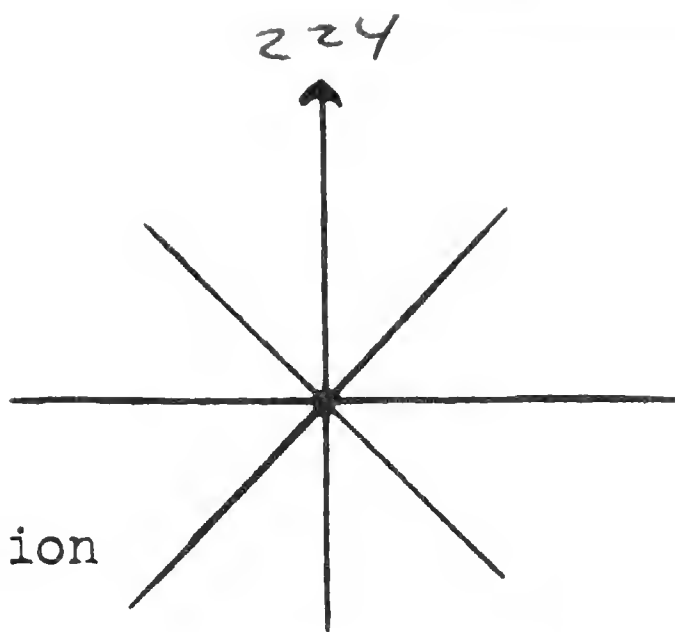
SPECIMEN  
or

*sunrise = 0529*

*begin observation - 0605*

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
0624	Leach Petrel	1 -			
0630	Flock				
0634	Leach Petrel	4 -			feeding [ ship moving at ca. 10 knots so flock was <sup>ca.</sup> miles ahead when spotted. It probably would have been spotted at over one mile had been looking in right place.
	Shear/pet	4 -			all dark, splashing on H <sub>2</sub> O like wedge tail
0638	Leach Petrel	1 -	⊙		edge of rain squall.
0641					
↑					
rain squall					
↓					
0700					
0717	wedge tail shearwater	3 -	NE		2 dark phase, 1 light phase
0719	Leach Petrel	1 -	⊙		
0723	" "	1 -	⊙		
0730	" "	1 -	⊙		molt apparent on upper tailcoverts, not in primary
		1 -	⊙		no apparent molt
0735	no				
to					
0759	Obs.				
0806	Shear/petrel	1 -			all dark - probably wedge tail sh.
0839	" "	1 -	⊙		
0840	wedge-tail shearwater	1 -	NE		dark phase
0841	" "	1 -	NE		" "
0841	" "	1 -	NE		" "
0843	wedge tail shearwater	1 -	W		" "
	Leach Petrel	1 -	W		
0844	Leach Petrel	1 -	SE		
0844	Leach Petrel	1 -	W		no apparent molt

Ship  
Direction



SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

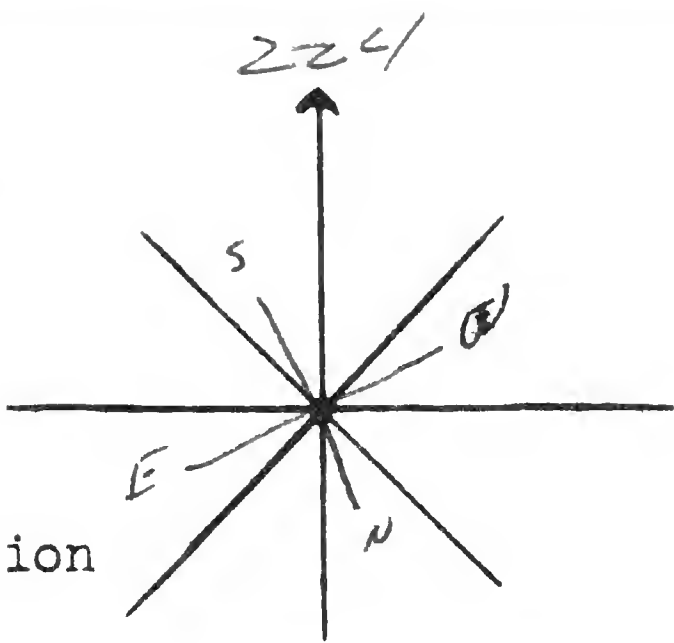
P. Gould

Date 12 July 1967  
Pg. # 2

SPECIMEN  
or

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
0900	Juan Fernandez Petrel	1-	⊙		
0900	Kermadec Petrel	1-	⊙		dark phase
0900	Leach Petrel	1-	on H <sub>2</sub> O		feeding on H <sub>2</sub> O
0928	Juan Fernandez Petrel	1-	NE W		molt apparent
0945	" "	1-	NE N		
1007	Storm Petrel	2-	⊙		one (Leach's?, distinctly larger than the other least?) could not tell a white rump,
1011	Shear/Pet	1-	NE W		
1011	Leach Petrel	1-	⊙		
1014	Juan Fernandez Petrel	1-	NE E		body molt apparent, wing molt not apparent
1019	Storm Petrel	1-	⊙		
1020	Juan Fernandez Petrel	1-	N		
1029	"	1-	NE E		
1029	Juan Fernandez Petrel	1-	⊙		molt ing
	Wedge-tail Shearwater	1-	⊙		light phase
1030	Leach Petrel	1-	⊙		
1030	no obs				
1030	obs				
1345					
rain 1353	Juan Fernandez Petrel	1-	NE W		Rain, rough seas, completely overcast, high wind
rain 1403	Shear/Pet	1-	NE W		all dark
rain 1410	" "	1-	NE W		white belly + breast.
rain 1416	Juan Fernandez Petrel	1-	NE W		





Ship  
Direction

SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

*P. J. Gould*

Date 12 July 1967  
Pg. # 3

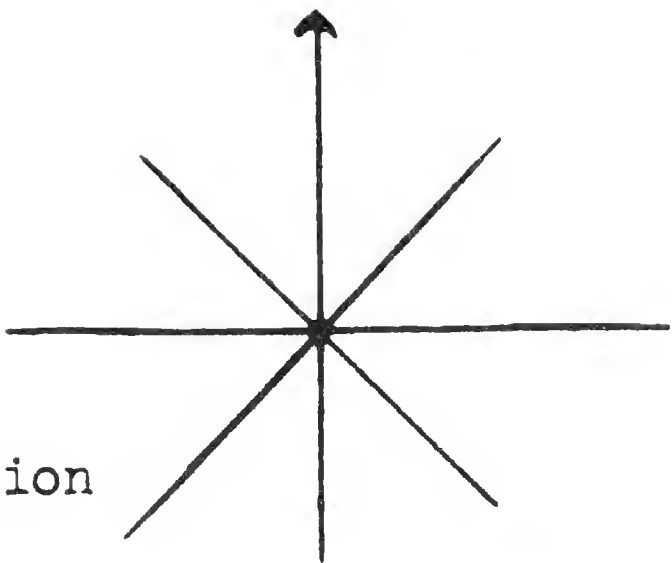
SPECIMEN

or

	TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
rain	1420	Shear/Pet	1-	NW		
rain	1422	wedge-tail shearwater	1-	NW		dark phase
rain	1424	Shear/Pet	1-	NW		white below
rain	1424	Murphy? Petrel	1-	NW		
rain	1428	Juan Fernandez Petrel	1-	SE		
rain	1430	" "	1-	NW		
rain	1433	" "	1-	NW		
rain	1442	wedge-tail shearwater	1-	NW		dark phase
rain	1452	Juan Fernandez Petrel	1-	SE		molt
rain	1453	Shear/Pet	1-	NW		
rain	1454	Pterodroma	1-	NW		all dark
rain	1456	Juan Fernandez Petrel	1-	⊙		molt
rain	1456	" "	1-	NW		molt
rain	1459	wedge-tail shearwater	1-	⊙		dark phase
rain	1500	Juan Fernandez Petrel	1-	N		molt
rain	1503	Pterodroma	1-	NW		all dark
rain	1508	Shear/Pet	1-	NW		all dark
rain	1510	" "	1-	NW		white below
rain	1510	wedge-tail shearwater	1-	NW		dark phase
rain	1513	wedge-tail shearwater	3-	NW		dark phase
	(3/10/12)	Juan Fernandez Petrel	3-	NW		
"	1514	wedge-tail shearwater	9-	on H <sub>2</sub> O		dark phase
"	1514	Pomarine Jaeger	1-	⊙		ad light phase
"	1515	Juan Fernandez Petrel	1-	NW		

224

OBSERVERS:

Ship  
Direction

SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

Date 12 July 1967  
Pg. # 4

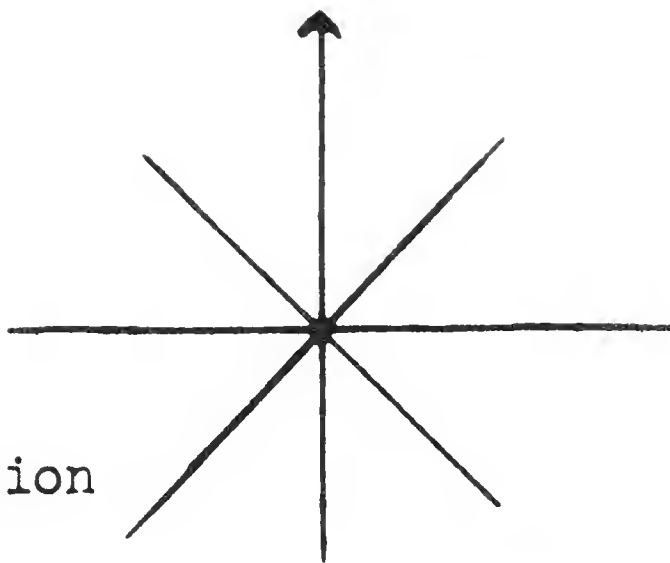
SPECIMEN

or

TIME SPECIES # DIR. BAND NO. REMARKS

rain	1518	shear/Pet	1-	☉		
"	1519	Laysan Pterodroma	1-	☉		white below
"	1519	frigatebird	1-	☉ → NW		
"	1520	Pink-footed Shearwater	1-	m		
"	1520	frigatebird	1-	H <sub>2</sub> O		well seen, pale bill, round tail, dorsal color lighter & more brown than wedge-tail (light blue)
"	1533	frigatebird	2-	☉		both molting
"	1536	" "	1-	☉		
"	1540	Flock				frigate
		frigatebird	10 ± 3-			
		Petrel	2-			all dark
		shearwater	10 ± 4-			mostly white below
"	1600	Heard ?	1-	☉		thin white irregular line through dark underwing - dark phase.
	1601 to 1717	no obs.				
	1735	shearwater	1-	☉		Full speed at 1730
	1742	Socorro Petrel	1-	☉		white below
		Least Petrel	1-	☉		no white what so ever, but flew like Leach's.
	1745	Shear/Pet	2-	N		1/2 size of Socorro
	1747	Manx Shearwater	1-	N		
	1749	Shear/Pet	2-	N		
	1753	" "	1-	N		
	1754	" "	1-	☉		
	1805	" "	1-	☉		
	1809	frigatebird	1-	☉		

224

Ship  
Direction

SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

*P. J. Good*

Date 12 July 1967  
Pg. # 5

SPECIMEN  
or

TIME SPECIES # DIR. BAND NO. REMARKS

1814

Phoenix/  
TAHITI

1-

NW

1922

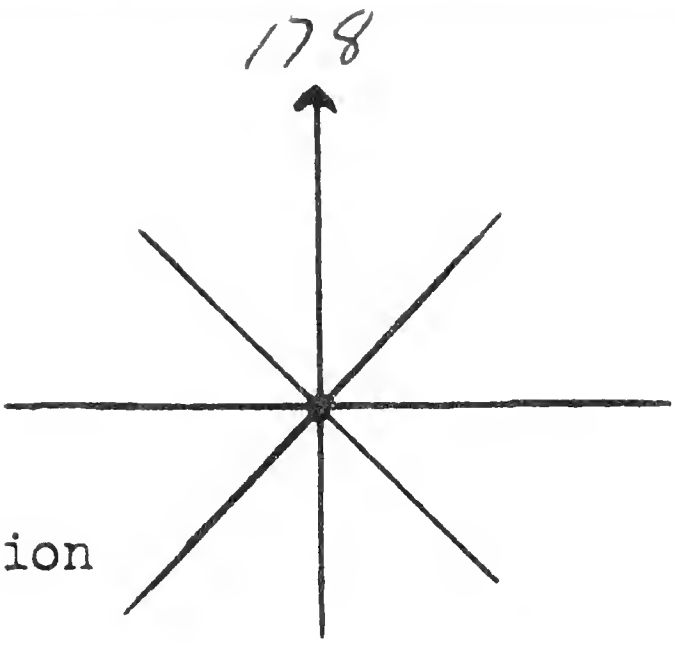
frigatebird  
Pele

1-

⊙

*See observation  
at sunset 1825*





Ship  
Direction

SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

*P. J. Gould*

SPECIMEN

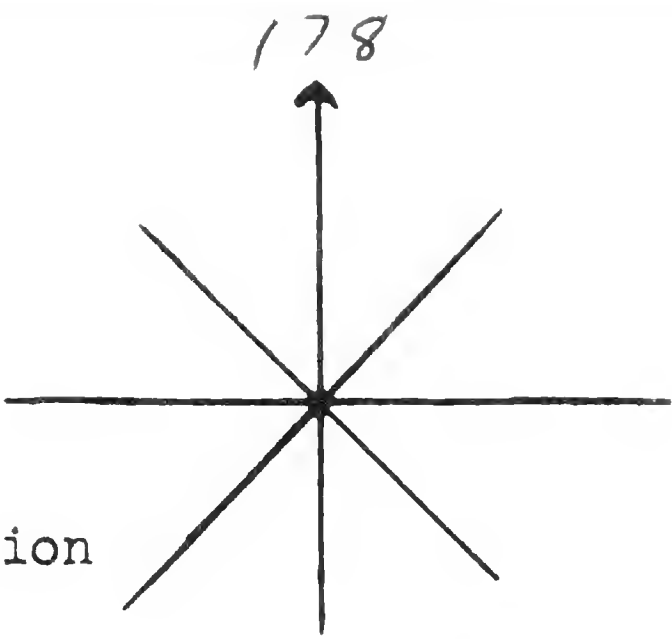
or

DIR. BAND NO. REMARKS

*sunrise = 0540*

Date *13 July 1967*  
Pg. # *1*

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
0637	Leach's Petrel?	10±2	⊙	Probably feeding	0615 = slow speed for net tow 0637 = resume full speed
0644	Petrel				
0648	Leach's Petrel	1	⊙		
0648	"	1	⊙		
0648	"	1	⊙		
0648	"	1	⊙		
0648	Leach's Petrel?	1	⊙		
0648	"	1	⊙		
0654	Wedge-tail Shearwater	1	SE	dark phase	all searching, but all scattered, the closest together being about 1/4 mile apart, the farthest over 1 mile. all probably once part of 0637 flock, but have split off and now searching as individuals. Not all are moving in same direction, but the general tendency for most is to drift S to SE
0655	" ? "	1	SE	dark phase	→ WTS moving like SFP's
0655	Leach's Petrel	1	SE		
0655	" "	1	"	"	(shiny, not dark)
0655	" ? "	1	"	"	same as at 0648 but most of these birds have already passed SE where some can still be seen so these are (and new), there are probably more than this but I can't keep track of individuals
0655	" ? "	1	"	"	→ AS with SFP's
0700	Wedge-tail Shearwater	1	"	dark phase	
0700	" "	1	"	dark phase	
0706	Leach's Petrel	1	SE		<del>apparently part of above group, but there are no other birds in sight</del>
0707	"	1	SE		
0707	"	1	SE		
0710	Leach's Petrel	2	SE		
0710	Wedge-tail Shearwater	2	SE	dark phase	
0710	Leach's Petrel	1	S		
0710	"	1	S		



Ship  
Direction

SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

*P. J. G. G. G.*

Date 13 July 1967  
Pg. # 2

SPECIMEN

or

TIME SPECIES # DIR. BAND NO. REMARKS

0715 from Family Petrel 1- → SE (SEE)  
Wedge-tail Shearwater 1- → SE (SEE) dark phase

0715 from Family Petrel 1- → SE (SEE)  
Wedge-tail Shearwater 1- → SE (SEE) dark phase

0715 from Family Petrel 1- " "

0715 " 1- " "

0715 " 1- " "

0718 Flock ————— probably feeding;

to  
0723 from Family Petrel 150 ± 25 (C)  
Wedge-tail Shearwater 1- (C)  
Wedge-tail Shearwater 30 ± 5 (C) — dark phase (dark phase)  
Wedge-tail Shearwater 1- (C)

0725 from Family Petrel 10 ± 3 → SEE  
Wedge-tail Shearwater 3 — " dark phase

0730 from Family Petrel 5 → SEE  
Wedge-tail Shearwater 1 — " dark phase

0735 from Family Petrel 5 → SEE  
" " " "

0740 " 5 — " "

0745 from Family Petrel 1 — " "

0745 Wedge-tail Shearwater 1 — " "

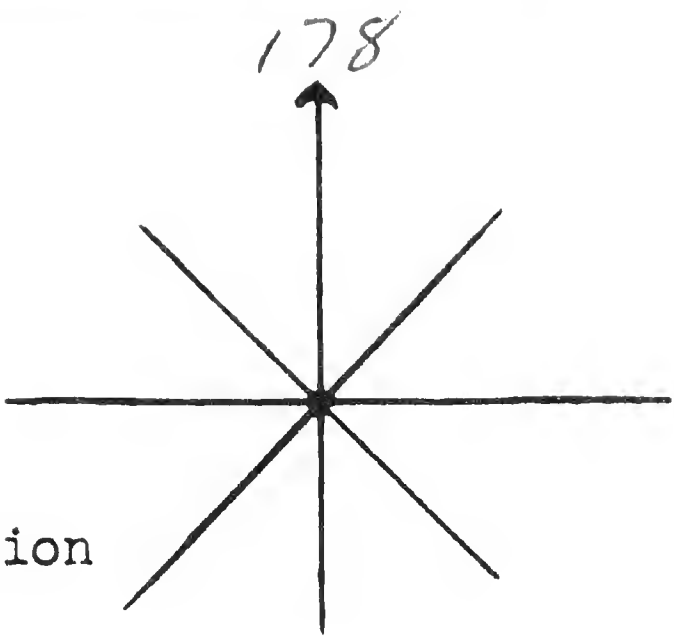
0748 from Family Petrel 4 — " "

0750 Flock Petrel 1- (C)

searchy and  
scattered bird probably see  
ship oriented around central  
flock.

There are well over birds that  
keep coming up from behind  
ship and disappear towards horizon  
in front to starboard of ship

brown (dark) on back, black at wing tips  
difficult black under wing border.



SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

*P. J. Gould*

Date *13 July 1967*  
Pg. # *3*

SPECIMEN  
or

TIME SPECIES # DIR. BAND NO. REMARKS

0752

*Manx Shearwater*

1-

E →

*diffinite black under tail coverts*

0752

*Fuon Family Petrel*

1-

E + S →

*molting*

0755

"

1-

~~E + S~~ →

0755

"

1-

⊙

0755

*Leach Petrel*

1-

⊙

*} at 0800 one fuon Family sit on the water  
The Leach petrel then flew over and sit beside  
the TFP for several minute then the LSP  
flew off. The second TFP was still flying  
among the general area.*

*These birds not acting like previous ones  
in that they are not continuously moving in one  
direction. no birds appear from the NW  
now*

0807

TO

*Flock*

0816

*Fuon Family Petrel*

*40 ± 5-*

*may be fairly but birds widely  
scattered, not drifting but staying in  
same general area*

*Wedge-tail Shearwater*

*30 ± 5-*

*Sooty Petrel*

*2-*

*Leach Petrel*

*1-*

0820

TO

*Fuon Family Petrel*

*10 ± 2-*

0823

*Manx Shearwater*

*1-*

*Pink footed Shearwater*

*1-*

*Wedge-tail Shearwater*

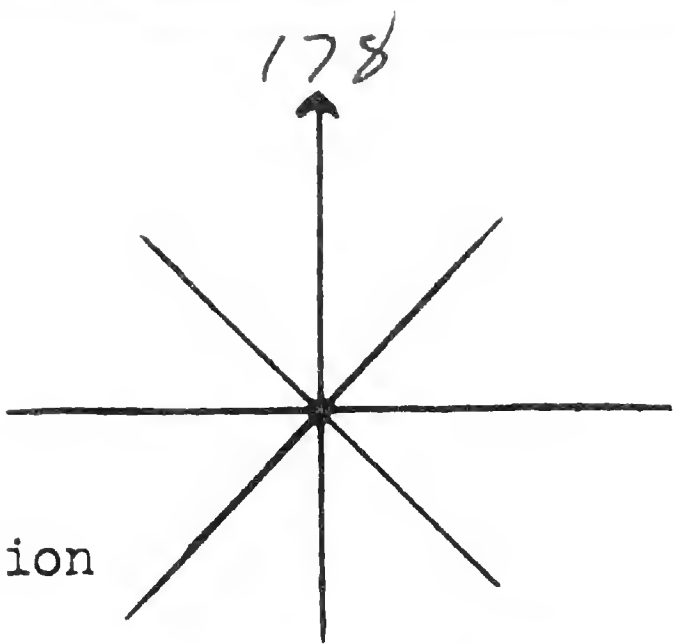
*1-*

*last 1 hr*

*scattered  
not a true flock?  
maybe searching flock*



Ship  
Direction



SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

*P. J. Gould*

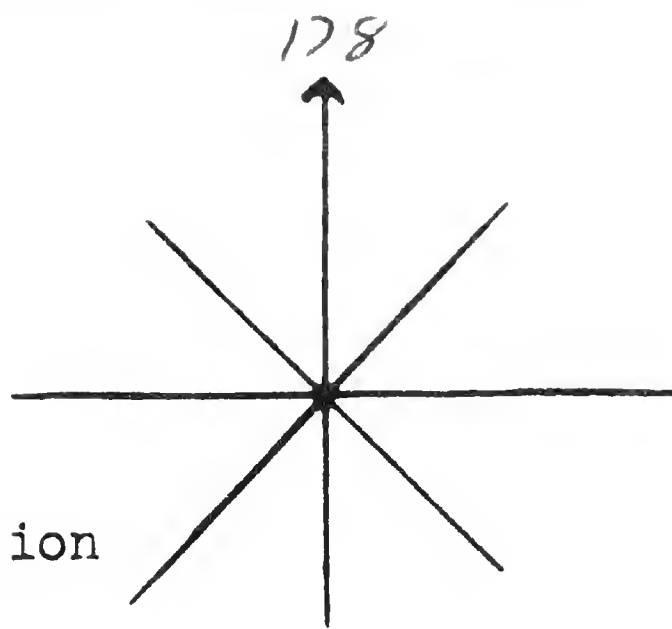
Date *13 July 1967*  
Pg. # *4*

SPECIMEN

or

TIME SPECIES # DIR. BAND NO. REMARKS

0828	Leach Petrel	1-	☉		
0830	Wedge-tail Shearwater	1-	☉		dark phase - all dark phase wedge-tails
0834	Leach Petrel	2-	S		today have had grey wing linings, or tan dark on the way the light struck the surface, but that stood out clearly when the sun reflected off them.
0839	"	1-	☉		
0840	"	2-	m 420		
0840	Wedge-tail Shearwater	1-	☉		dark phase
0844	Leach Petrel	1-	SE →		
0845 70 0913	no obs.				
0914	Leach Petrel	1-	☉		
0925	Leach Petrel	1 } 4 }	m 1430		Together flocked by ships
0928	Leach Petrel	2-	☉		
0931	Leach Petrel	4-	m 1420		
0931	Leach Petrel	1-	☉		
0934	Leach Petrel	1-	m 1420		
0945	Flock				not feeding
	Leach Petrel	4-	☉		
	Wedge-tail Shearwater	9-	☉		dark phase
	Leach Petrel	1-	☉		
0951	Leach Petrel	2-	☉		
0951	Leach Petrel	2-	☉		



Ship  
Direction

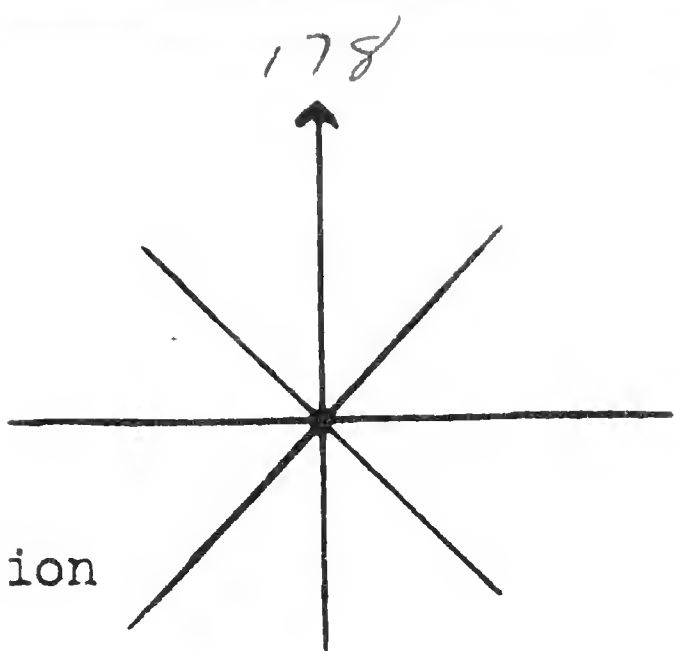
SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

*P. Gove*

Date *13 July 1961*  
Pg. # *5*

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
0959	Leak Petrel	1-	⊙		
1010					<i>sperm whale (less than 10 ft long)</i>
1015	Shear/Pet	1-	⊙		
1020	" "	1-	⊙		<i>color appeared grey lighter below, not moving</i>
1025	Wedge-tail Shearwater	1-	→ E		<i>dark phase</i>
	Leach's Petrel	1-	→ E		
1029	Shear/Pet	1-	⊙		
1030 To 1340	no obs.				
1343	Leach's Petrel	1-	⊙		<i>Probably in H<sub>2</sub>O</i>
1346	"	1-	⊙		
1347	"	1-	⊙		
1403	"	1-	m H <sub>2</sub> O		
1404	"	1-	→ E		<i>molt, in 7</i>
1414	"	1-	⊙		
1418	Wedge-tail Shearwater	1-	E		<i>dark phase</i>
1419	Leach's Petrel	2-	→ E		
1425	Leach's Petrel	2-	⊙		
1425	Sooty Petrel	1-	⊙		<i>difficult deep subventral, no white.</i>
1429	Leach's Petrel	1-	→ E		<i>molting</i>



Ship  
Direction

SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

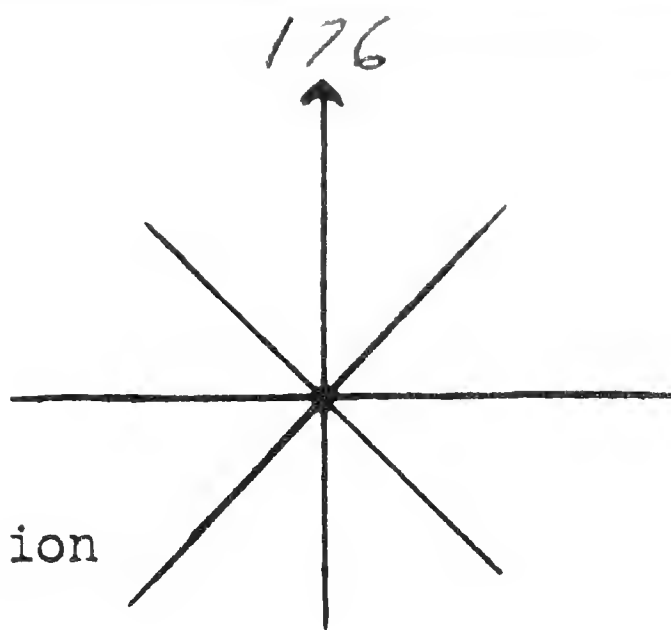
*P. J. Gould*

Date *13 July 1967*  
Pg. # *6*

SPECIMEN  
OR

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
1429	Leach Petrel	1	WS		
1431	Juan Fernandez Petrel	1	m H <sub>2</sub> O		flushed by ship, no apparent molt
1435	"	1	⊙		both probably on H <sub>2</sub> O originally
1435	"	1	⊙		
1436	Leach Petrel	1	⊙		
1437	Juan Fernandez Petrel	1	WSNE		no apparent molt
1446	"	1	m H <sub>2</sub> O		
1447	Leach Petrel	1	NE		
1447	Shear/Pet	1			while below ca 1 1/2 miles distant
1453	Pink footed Shearwater	1			
1458	Porpoise "Spinner"?	20+			fairly scattered
1500	Juan Fernandez Petrel	1	NE		molted
1500	"	1			in distance
1505	"	1	on H <sub>2</sub> O		heavy molt
1505	Leach Petrel	1	⊙		
1510	Leach Petrel	1	NE		
1516	Juan Fernandez Petrel	1	⊙		
1526	" "	1	NE		molted
1526	" "	1	⊙		molted
1530	Pink footed Shearwater	1	SE		probably Pink-footed
1541	Juan Fernandez Petrel	1	on H <sub>2</sub> O		eating something, which it would think around in the water and then swallow. it took exactly 63 seconds to reach the bird from the time I spotted it & the ship is moving at 12.1 knots.
1545	" "	1	WSSE		
1550	Shear/Pet	1	NE		
1553	Juan Fernandez Petrel	1	⊙		
1554	Shear/Pet	1	⊙		





Ship  
Direction

SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

*1 f Gould*

Date 13 July 1967  
Pg. # 7

SPECIMEN  
or

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
1600	Leach Petrel	1-	⊙		
1600	Leach Petrel	1-	⊙		
1601 to 1703	no obs.				
1704	Leach Petrel	1-	⊙		1703 slow speed for net tow
1720	Leach Petrel	1-			chasing small fish which were jumping out of water
	wedge-tail shearwater	2-			1 dark phase 1 light " } drifting E
	<del>Leach Petrel</del> white-rumped storm petrel	1-			
					few like Wilsons
1724	Leach Petrel	1-	NE		moulting
1728	" "	2-	NE		no apparent molt
1740 to 1744	Flock Leach Petrel	15 ± 2-			<del>1729</del> resume full speed
	wedge-tail shearwater	1-			searching
					Took two minutes at 11 knots to reach flock.
1750	Flock				searching
	Leach Petrel	40 ± 1-			<div style="border: 1px solid black; border-radius: 50%; width: 50px; height: 50px; margin: 0 auto; display: flex; align-items: center; justify-content: center;"> <span style="font-size: 2em;">⊙</span> </div>
	Leach Petrel	1-			
	Pink-footed shearwater	1-			
1753	Leach Petrel	2-	⊙		
1800	wedge-tail shearwater	2-	⊙		dark phase
1808	Shear/Pet	1-	NE		
1820	Leach Petrel	1-	⊙		

Secure watch at  
sunset 1823

176

OBSERVERS:

Ship  
DirectionSMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

SPECIMEN

OR

DIR. BAND NO. REMARKS

Sunrise = 0547

Date 14 July 1967  
Pg. # 1

TIME

SPECIES

#

SPECIMEN

OR

DIR. BAND NO. REMARKS

begin observations at = 0610

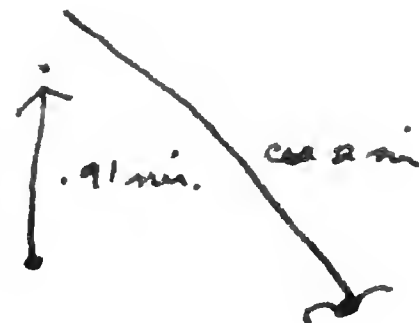
0615	Levon Family Petal	1-	→ E 65	
0616	" "	1-	" "	
0620	" "	1-	⊙	
0623	" "	1-	→ E to S	
0623	" "	1-	" "	
0623	Shear/Pet	1-	" "	
0626	Levon Family Petal	2-	" "	
0626	" "	1-	" "	
0626	" "	1-	" "	
0626	" "	1-	" "	
0630	" "	1-	m H <sub>2</sub> O	
0634	Wedge-tail Shearwater	1-	→ NE	dark phase
0635	Levon Family Petal	1-	→ E to S	
0635	" "	1-	" "	
0635	" "	1-	" "	
0635	" "	1-	" "	
0635	" "	1-	" "	
0635	" "	1-	" "	
0640	" "	1-	" "	
0640	" "	1-	" "	
0640	" "	1-	m	
0645	" "	1-	H <sub>2</sub> O	
0650	" "	1-	" "	
0650	" "	1-	E → S	
0650	" "	1-	" "	
0655	" "	1-	" "	
0655	" "	1-	" "	
0705	" "	1-	" "	
0705	" "	1-	" "	
0706	" "	1-	m	
0710	" "	1-	H <sub>2</sub> O	
0710	" "	1-	E → S	
0710	" "	1-	" "	
0710	" "	1-	" "	

Three birds are doing the same  
as the bird yesterday morning



It takes perhaps five minutes at  
most for a bird to spot behind ship  
to catch up and cross the bow  
ship is making, ca. 11 knots.

$$\frac{1}{60} = \frac{x}{5} \quad 60 \overline{) 55.000} \\ \underline{51 \phantom{00}} \phantom{00} \\ 400$$



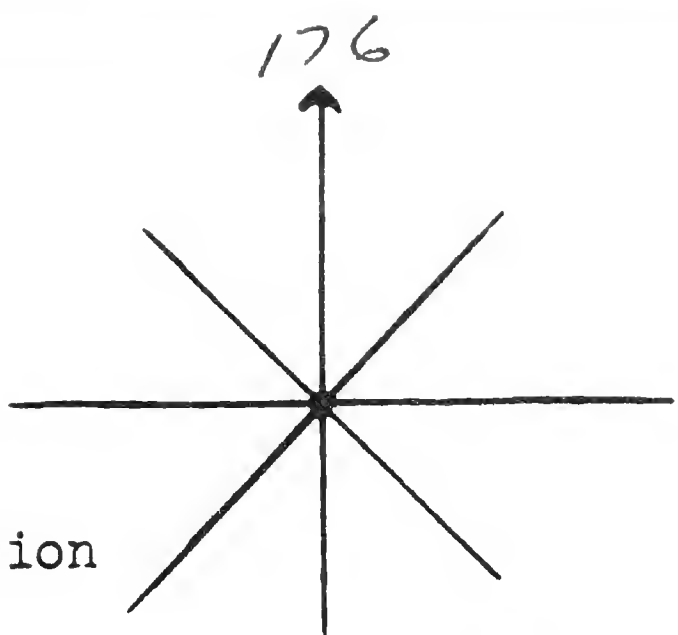
So the birds are  
moving 2+ miles in the  
time the ship moves 1 mile  
which would mean a speed of ca. 25 knots  
for the birds and they are moving at  
what I would call a leisurely pace

at 0700 these two birds were ca 1/2 mile ahead  
of ship, when first seen there was ca 1/2 - 2/3 mile  
behind ship

25 MPH probably a fairly  
good estimate of cruising  
slight speed for the J.F.P.

SI-MNH-958-e

Rev. 5-66



Ship  
Direction

SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

*P. Gould*

Date 14 July 1967  
Pg. # 2

SPECIMEN  
or

TIME SPECIES # DIR. BAND NO. REMARKS

0712 Flock feeding at least 1 to 1 1/2 miles away (west of ship)  
from Family Petrel? 20 ± 5 - can be seen when they turn their undersides

0712 from Family Petrel 1 - S to E - all were P. externa.  
ca 2 miles from flock (ahead of ship)

0718 from Family ? Petrel 2 - S to E - west of ship at same distance of flock but  
flying away from it.

0723 Kermadec Petrel 1 - S to E - dark phase

0723 from Family Petrel 1 - " " "

0723 " " 1 - " " "

0723 " " 1 - " " "

0729 " " 5 - " " " - probably flushed from H<sub>2</sub>O

0729 " " 1 - " " "

0729 " " 1 - " " "

0735 " " 1 - " " "

0735 " " 1 - " " "

0735 Common Noddy Tern 1 - " " "

0739 NO  
TO  
0756 obs

0756 from Family Petrel 1 - S - E

0802 " " 1 - " " "

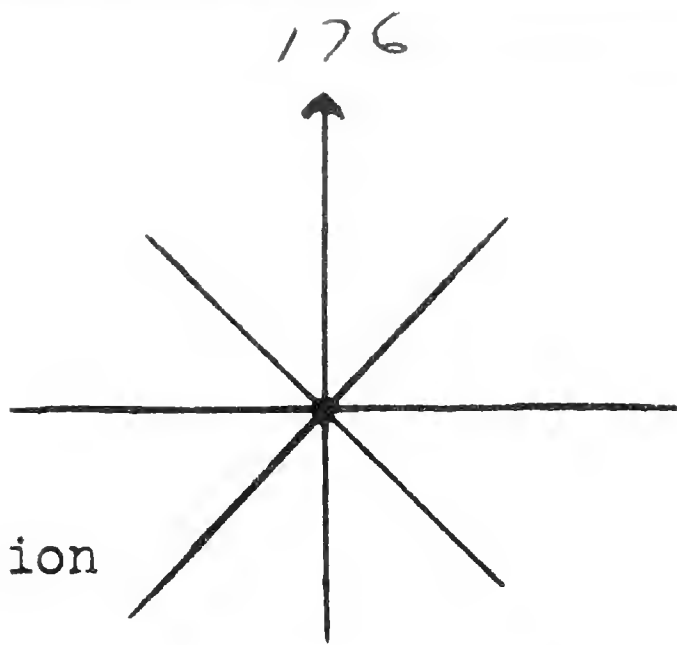
0805 Shear/Pet 1 - " " "

0805 " " 1 - " " "

0806 from Family ? Petrel 1 - " " " - flying around over whale (constant)

Pilot whale (black-fish) 12 ± NE - large spout





Ship  
Direction

SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

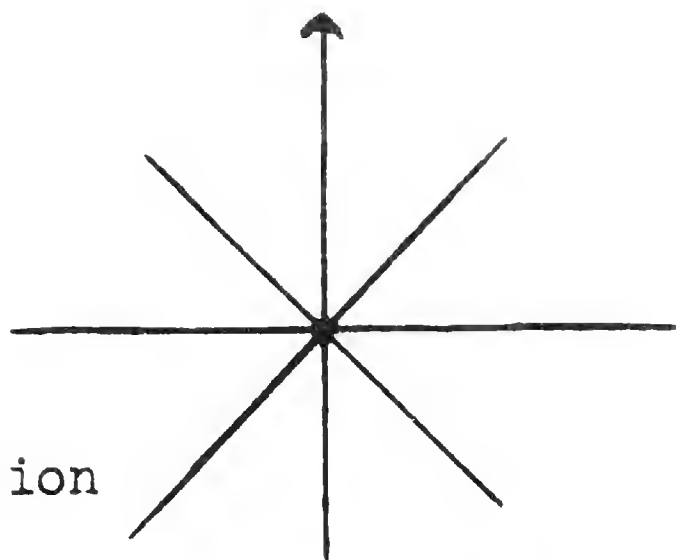
OBSERVERS:

*R. J. Green*

Date 14 July 1967  
Pg. # 3

SPECIMEN  
or

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
0715	Blue-face Booby	1-	@		Immature (1 <sup>st</sup> yr.)
0816	Leach's Petrel	1-	@		
0828	" "	1-	SW		
0832	" "	1-	SW		
0847	" "	8 ± 2	m		
0847	" "	1-	H <sub>20</sub>		
0847	" "	1-	@		
0847	" "	1-	@		
0850	" "	1-	m		
0921	" "	2-	H <sub>20</sub>		
0930	NO				
To	obs.				
0953					
1030	NO				
To	obs.				
1248					
1315	Blue-face Booby	1-	over ship		Immature (1 <sup>st</sup> yr.) stayed around for 6 minutes
1325	Pink-footed Shearwater	3-	WSW		well seen, pale bill, flesh feet on one bird.
1338	Shear/Pet	1-	m	all dark	Flight differs from <i>P. pacificus</i> in that the wings are held straighter + stiffer, wing beats appear slower + more powerful (shorter stroke) otherwise without another species for size comparison they would very easily be mistaken for <i>V. pacificus</i>
1341	Leach's Petrel	1-	"		
1405	Blue-face Booby	1-	@	Imm. (1 <sup>st</sup> yr.)	
1445	Leach's Petrel	1-	m		
1450	" "	1-	H <sub>20</sub>		
1510	" "	1-	SW		
1510	" "	1-	W		
1510	Wedge-tail Shearwater	1-	W		dark phase



Ship  
Direction

SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

*V. Gould*

Date *14 July 1967*  
Pg. # *4*

SPECIMEN  
or

TIME SPECIES # DIR. BAND NO. REMARKS

1545

*no*

TO

*yes*

1705

1745

*Levon Terning  
? Petrel*

2-

*→ S*

*slow speed for Plankton tow  
1730 - resume full speed*

*} light  
very good  
for identification*

1752

*Wedge tail  
Shearwater*

1-

*→ W*

*light phase - ~~dark phase~~*

1754

*Shear/Pet*

1-

*on  
H<sub>2</sub>O*

*white below*

1801

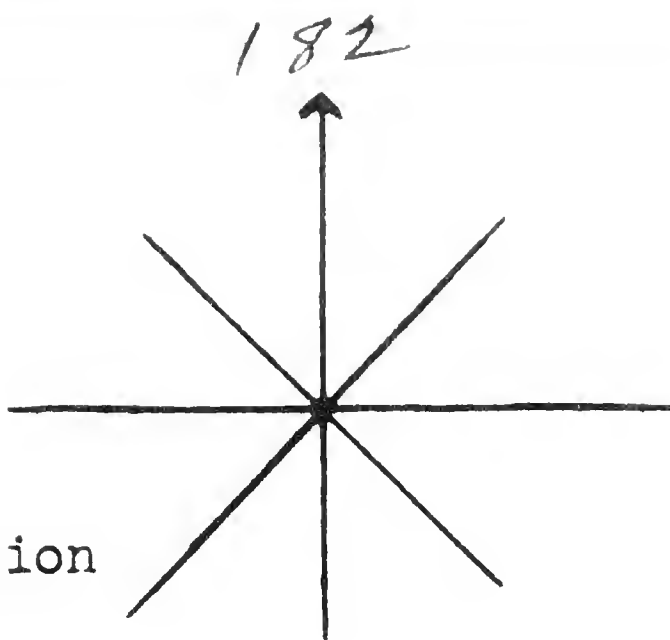
*" "*

1-

*S →*

*" "*

*Secure observations  
at sunset 1817*



Ship  
Direction

SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

*P. J. Gould*

Date 15 July 1967  
Pg. # 1

SPECIMEN  
or

*sunrise = 0550*

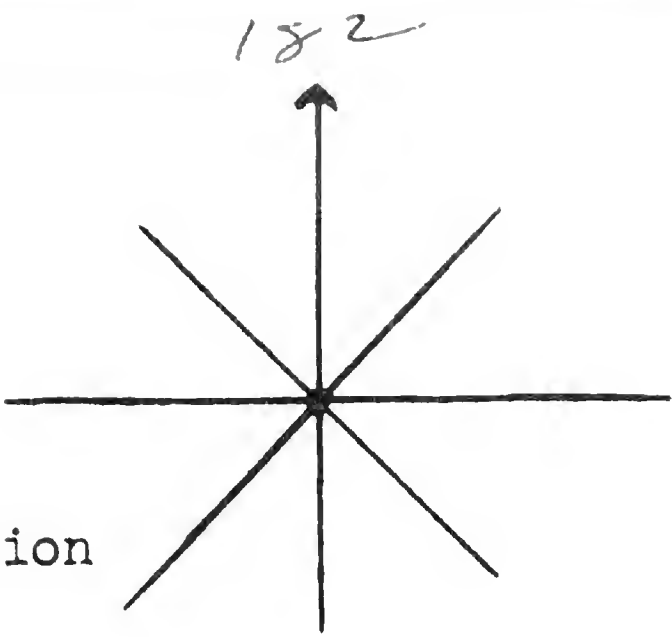
*begin observation = 0615*

	TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
rain	0638	from Fernaldy ? Petrel	1 -	W		0615 - ship resumes full speed after oceanographic station heavy overcast 0623 to 0645 rain <del>5</del> 0710 to 0716 "
	0648	Leach/ Harcourt Pet	2 -	E		
	0650	from Fernaldy Petrel	1 -	W		
	0700	from Fernaldy Petrel	2 -	⊙		
		Collared Petrel	2 -	⊙		
rain	0714	Shear/Pet	1 -	W		
rain	0715	" "	1 -	W		
	0718	from Fernaldy Petrel	1 -	⊙		no apparent molt
	0722	" "	1 -	W		
	0724	Shear/Pet	1 -			
	0730 to 0746	NO observation				
rain	0834	from Fernaldy Petrel	1 -	⊙		almost a steady light rain throughout this whole watch
rain	0850	Tern	1 -	SW		
	0851	from Fernaldy Petrel	1 -	SE	molt in primaries	all brownish, could be immature Sooty Tern but looked more like a Noddy.
	1000 to 1400	NO obs.				
rain	1415	from Fernaldy Petrel	1 -	⊙		rough seas, high winds, low visibility, rain - light but steady
rain	1418	" "	1 -	⊙		body molt
rain	1515	" "	1 -	⊙		wing & body molt
	1545 to 1549	Flock				feeding in rain
		from Fernaldy Petrel	1 -	NE H <sub>20</sub>		close to ship but probably part of flock since it joined the middle group
		Tern	6 ± 2	⊙		probably Sooty
		Shearwater/ Petrel	25 ± 5	⊙		large & small, mostly white below probably no more than 1/2 mile away but rain & rough seas make accurate count & counts impossible

SI-MNH-958-e

Rev. 5-66





SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

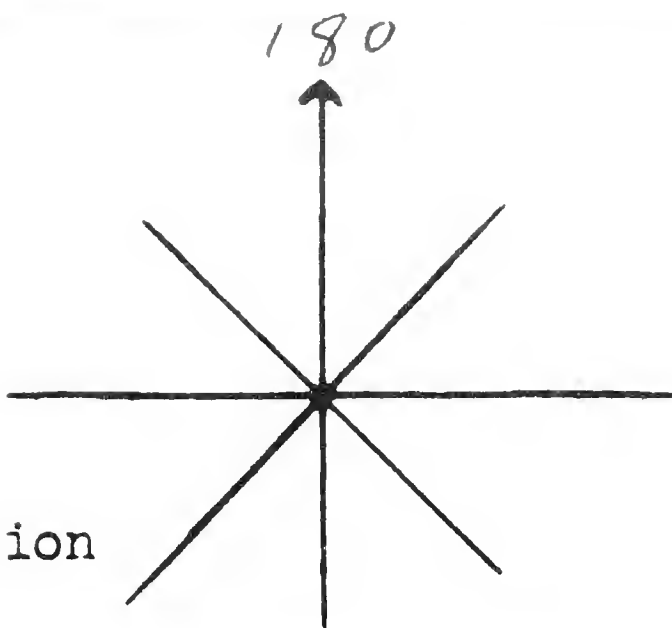
P. Gould

Date 15 July 1967  
Pg. # 2

SPECIMEN  
or

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
1559	Lesser Frigatebird	1-	SW		} edge of rain squall or more precisely between rain squalls.
1559	" "	1-	SW		
1600	Collared/Black-wing Petrel	1-	SW		
1600	Leach's Petrel	1-	S		
1601 to 1715	no obs				
1737	Lesser Frigatebird	2-	on 420		1745 slow speed not tow both molting

Secured Observation  
at sunset 1816



Ship  
Direction

SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

*J. Gould*

Date 16 July 1967  
Pg. # 1

SPECIMEN  
or

*sunrise = 0556*

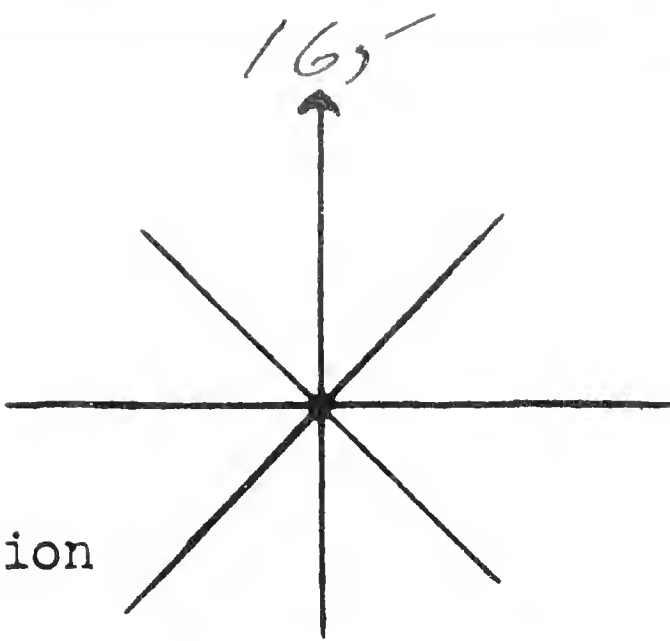
Pg. #

*Begin observation = ~~0556~~ 0545*

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
					0545 slow speed for net tow 0613 resume full speed
0655	Small Pterodroma	1	SW		all white below, including underwings, but I couldn't see the dorsal surface very well.
0730 70	NO				
0755	Obs.				
1030 50	NO				
1300	Obs.				
					Course now 165°
<del>1400</del> 1600 70	NO				
1710	Obs.				
1715	White- bellied Storm Petrel	1	⊙		1710 slow speed net tow 1725 resume full speed  very well observed. no white throat, no dark line on white bellie - underwing looked as if it had more black than rest of regilla. very broad white wing patch, bird looked very fat with relatively broad wings - did not kick up waves but dabbled in water with bill while hovering.
<i>Secured watch at sunset 1811</i>					



ventral  
wing



Ship  
Direction

SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

*P. J. Gould*

Date *17 July 1967*  
Pg. # *9*

SPECIMEN  
or

*Sunrise = 0600*

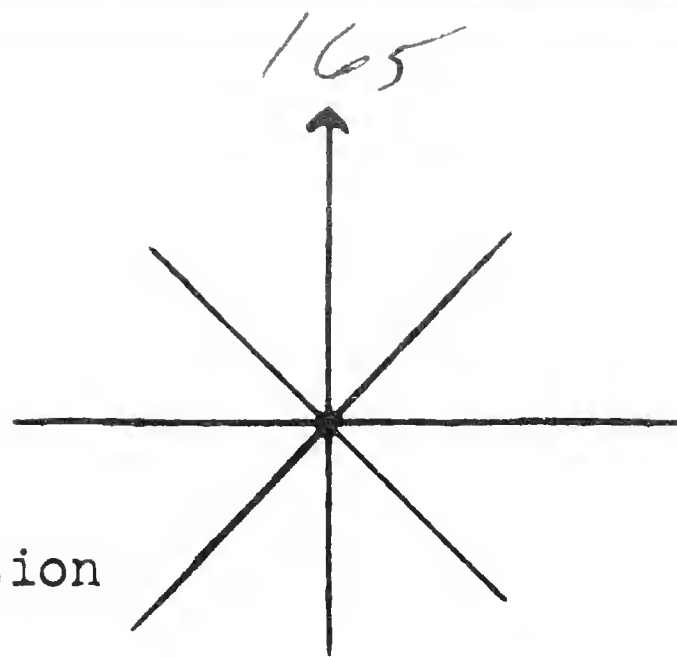
*Begin observations = 0550*

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
0558	Sooty Tern	1 -	?		Immature (1st yr.) - still a bit way behind ship at sunrise (0600)
0730 T 0753	no obs.				
0914	Sooty Tern	1 -	☉		Feeding - same bird again at 0918 flying at edge of rain squall
1030 TO 1340	no obs.				
1520	Leach's / Harcourt Petrel	1 -	☉		1340 slow speed for net tow 1400 resume full speed flew like Level 1
1544	Harcourt's Petrel	1	☉		Tail with very shallow fork when spread, flight without glides + more constant + rapid wing beats than 1520 bird, no indicator of dark in which suggests
1549	Sooty Tern	1 -	☉		
1555	Puffin	25+	☉		small size possible Spanish white necked. "South American Spinner" ?
1600 TO 1700					
1730	Leach's / Harcourt Petrel	2 -	☉		1700 slow speed net tow 1723 resume full speed

*Secure Observation at  
Sunset 1806*



Ship  
Direction



SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

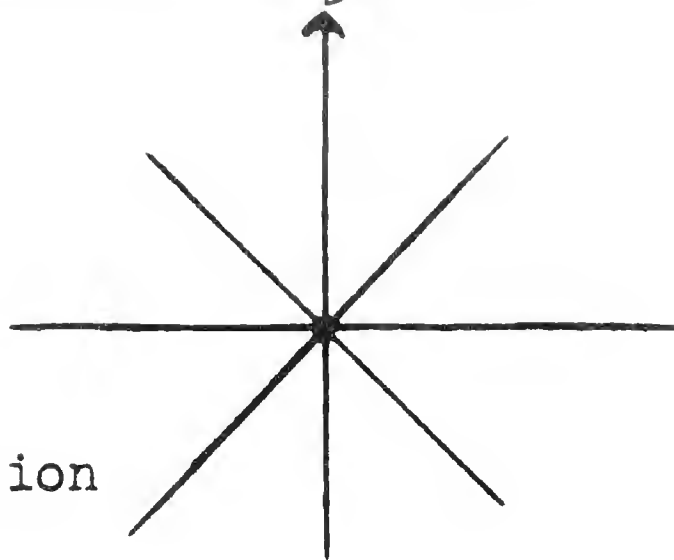
*P. J. Gould*

SPECIMEN  
or

Sunrise = 0605 Date 18 July 1967  
Begin observations = 0600 Pg. # 1

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
0700	Small Pterodroma	1 -	SW		Flying Fish are extremely abundant today - many large (several hundred per school) schools. Far more abundant here than any place since the beginning of the trip.
0730 To 0745	no obs.				
0755	Small Pterodroma	2 -	WS		
	white-throated or white-bellied Petrel	1 -	WS		
0810	white-throated Storm Petrel	2 -	⊙		both well seen, with throat, dark chest band - both kicking off of water using both feet at the same time.
0820	"	1 -	⊙		very close - very patch heavily suffused <sup>with</sup> brown - bird probably molting
0827	"	1 -	⊙		
0840	"	1 -	⊙		
0909	Storm Petrel	1 -	SW		
0915	Pterodroma	3 -	SW		white belly
1003	white-throated Storm Petrel	4 -	WS		
1011	"	2 -	WS		
1019	Storm Petrel	1 -	⊙		
1020	white-throated Storm Petrel	1 -	WS		
1021	Leach Petrel at Hancock Is	1 -	Feeding		by setting on H <sub>2</sub> O with wings up raised
1029	" "	1 -	SE		and head dabbling in H <sub>2</sub> O

083

Ship  
Direction

SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

*P. J. Gould*

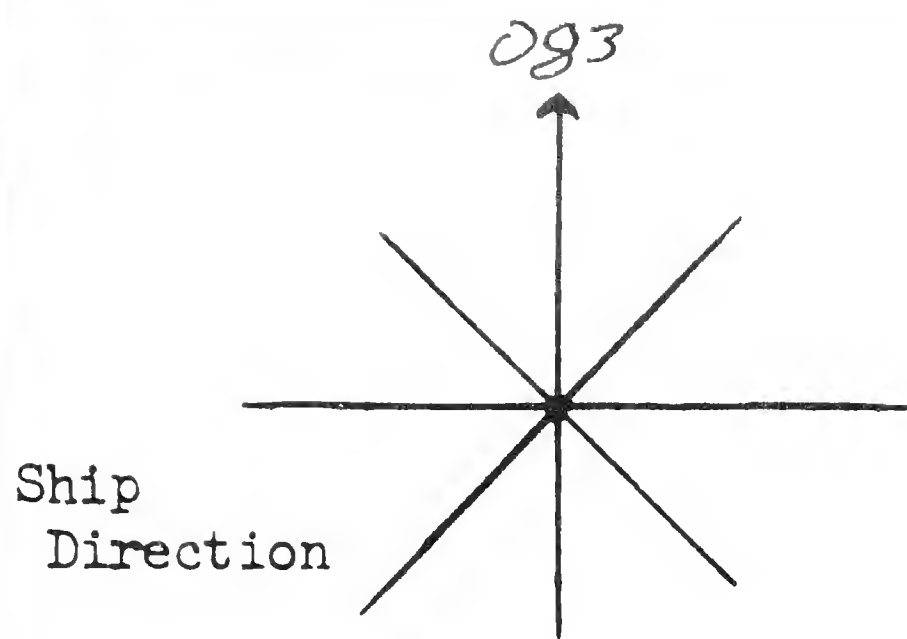
Date 18 July 1967  
Pg. # 2

SPECIMEN  
or

TIME SPECIES # DIR. BAND NO. REMARKS

1030 To 1300	720 observations				
1309	Leach/ Harcourt Petrel	1-	⊙	NE	— flew over ship's
1326	Collared Petrel	1-	→	NE	
1327	Leach Petrel	1-	→	NE	
1329 To 1332	Collared Petrel	6-	⊙	→ E	
1340	Leach/ Harcourt Petrel	2-	⊙		
1345	white-throated Shear Petrel	2-	⊙		— well seen, kicking off water
1349	" "	1-	⊙		
1353	Collared Petrel	1-	S		
1415	" "	1-	⊙	W	
1425	" "	1-	E		
1435	" "	1-	NE		
1441	small Pterodroma	1-	NE		
1500	white-wing Petrel	1-	NE		

*Seems observations 1530*



SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

*P. J. Gould*



Date 19 July 1967  
Pg. # 1

Sunrise = 0550

Begin Observations = 0545

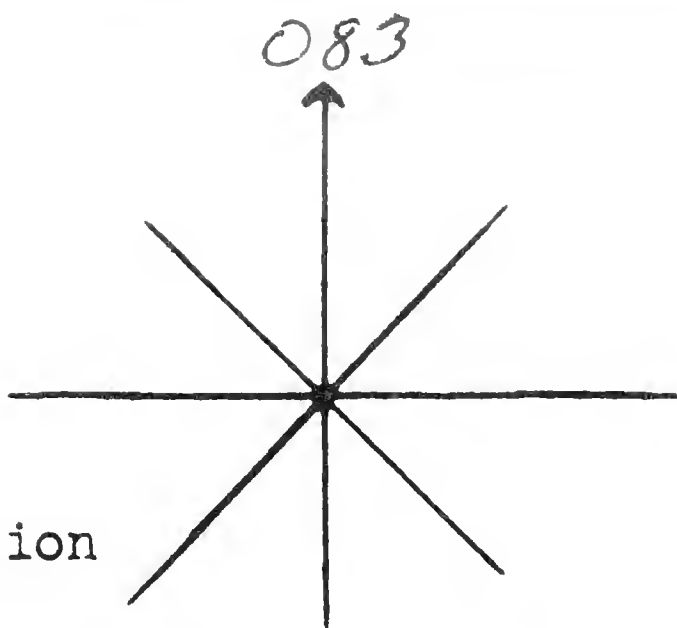
SPECIMEN  
or

TIME SPECIES # DIR. BAND NO. REMARKS

0730 To 0800	NO Obs.				
0822	Pterodroma	1	→S		
0824	Leach Petrel	2	⊙		dark divide, line in rump well seen.
0824	White-wing Petrel	1	→SW		
0840	" "	1	→SW		dark underwing border definite, black head, gray back
0846	" "	1	→NE		like 
0846	" "	1	→NE		 ventral
0853	Shear/Pet	1	→NE		
0855	" "	1	⊙		
0909 To 1000	NO Obs.				ship stopped for engine repair
1100 To <del>1200</del> 1250	NO observed.				
1256	Small Pterodroma	1	NE		white below with dark border to underwing
1303	Leach/or Harcourt Shear Petrel	1	NE		flying exactly like a small Pterodroma, a few flaps then an arcing glide (tilted).
1308	" "	2	ENE		still around at 1317
1316	" "	1	ENE		



OBSERVERS: (sumat 1745)

Ship  
Direction
 SMITHSONIAN INSTITUTION  
 DIVISION OF BIRDS  
 AT SEA DAILY LOG - E

 Date 19 July 1967  
 Pg. # 2

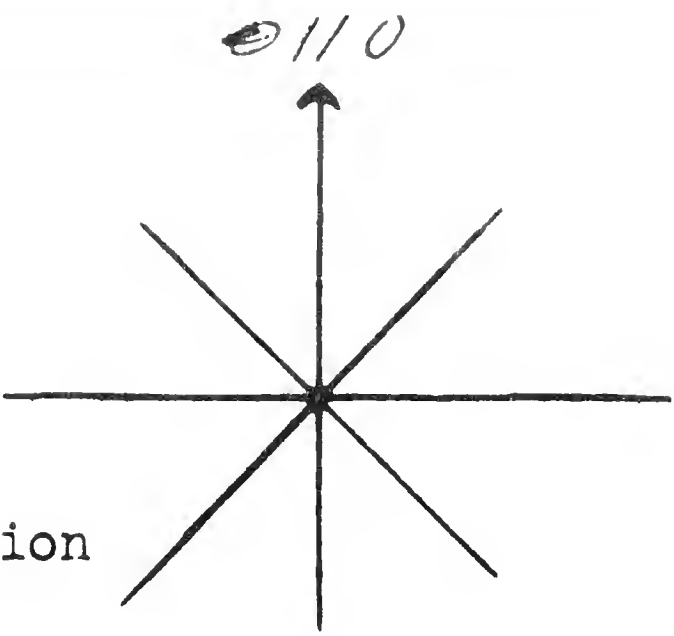
 SPECIMEN  
 or

TIME SPECIES # DIR. BAND NO. REMARKS

1328	Leach / on Harcourt Stem Petrel	1	⊙		in light rain
1346	Leach Petrel	2	⊙		well forked tail, dark center to tail, good view
1351	Leach / on Harcourt S.P.	1	⊙		
1400	" "	1	⊙		
1411	Small Pterodroma	1	SW		white below with distinct black underwing border
1411	" "	1	SW		" " " " " "
1422	White Throated Stem Petrel	1	⊙		Kicking off water with both feet.
1436	Leach / on Harcourt Petrel	1	→ W		
1446	Dark-rumped Petrel	1	→ SW		Very good view - dark underwing border clear cut + separate from white, back dark, at least 2x size of smaller Pterodroma it was flying with.
1528	Leach Petrel	2	⊙		black underwing border, but could not tell about head - I was too busy watching the D-R Petrel to get a good look.
1543	Small Pterodroma	1	N	white below	dark dusky line + white rump, good fork in tail bird split up one heavily in front the other behind ships.
1545	" "	1	S		
1553	Leach Petrel	1	⊙		white below with dark underwing borders.

Secure Observations at 1603

sumat = 1745



Ship  
Direction

SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

*R. J. Gould*

Date 20 July 1967  
Pg. # 1

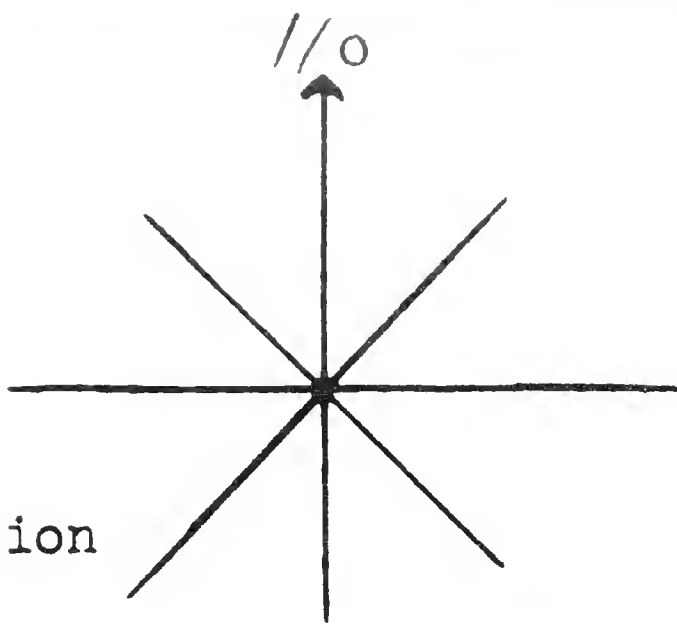
SPECIMEN  
or

*sunrise - 0538*

*begin observation 0615*

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
0625	Leach/ Harcourt Petrel	3-	☉		split up, one sat on H <sub>2</sub> O <del>2</del> , one fell behind other kept up with ship for another minute.
0630	Leach petrel	1-	☉		same bird? at 0637
0632	Leach/Harcourt Petrel	1-	☉		
0632	" "	1-	→E		
0651	storm petrel	1-	☉		flew like Leach's / a Harcourt
0730 To 0750	NO OBSER.				
0818	Storm Petrel	1-	☉		
0837	White-throated Storm Petrel	1-	→SW		good view - kicking off water with both feet at short intervals - actually looked up if it was hopping across the water.
0900	Sooty Petrel	2-	→NE		
0912	White-throated Storm Petrel	2-	☉		good view - Kicking off water with both feet at short intervals
0920	" "	1-	☉		" " " " " "
0928	" "	1-	☉		" " " " " "
0930	Booby "blue-face?" "albatross?"	1-	→E		ca. 1 1/2 miles from ship - flying interspersed with glide but no arcing. all white except black somewhere on dorsal surface of wing or back or both. too far away to be an albatross
0932	Shear/Pet	1-	☉		white rump & looked fairly large, but just a distance from ship. Arcing up like a Pterodroma at times but looked more like shape of a storm petrel.

Ship  
Direction



SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

*P. J. Gould*

Date 20 July 1967  
Pg. # 2

SPECIMEN  
or

TIME SPECIES # DIR. BAND NO. REMARKS

0945 white-throated  
Storm Petrel

1-

⊙

0946 Sooty  
Petrel

1-

SW

forked tail, dark wings, looked just like Leach's  
good view

0955  
TO

1010 obs.

1013 Storm Petrel

2-

⊙

one flew like a Leach's

1019 " "

1-

W

flew like a Leach's

1024 white-throated  
Storm Petrel

1-

⊙

1058 Dark-rumped  
Petrel

1-

SW

change course to 090° at 1036

very close - white forehead obvious, dark underwing  
border difficult especially between body & base of  
wing - back appeared uniformly rich brown or  
black-brown - could not detect any trace of "M"  
Pattern, flew like a Juan Fernandez Petrel.

1100  
TO  
1650

Oceanographic station  
2 Leach's reported at ca 1615

1726 Sooty  
Petrel  
white-throated  
Storm Petrel

2-

⊙

fast

1650 - slow speed (ca 5 knots) not tow

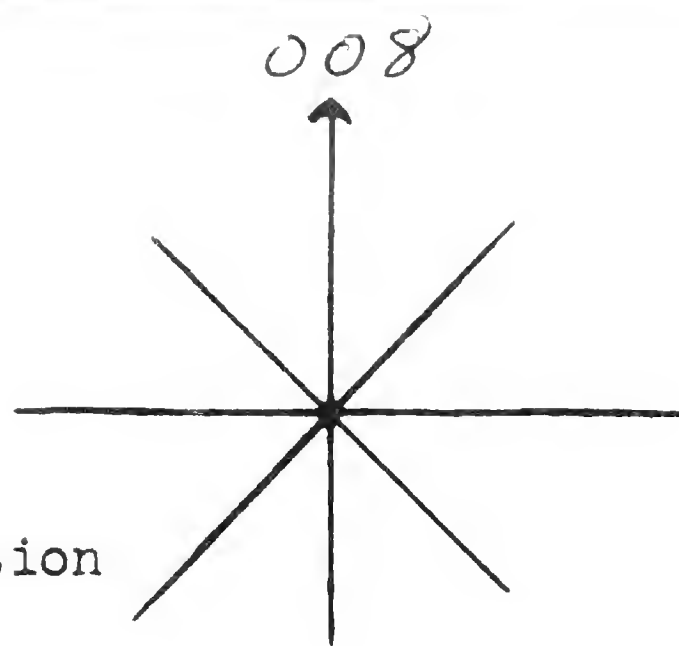
1710 - full speed - course 020°

Secure observation  
at sunset 1737

very little gliding, would swoop up high  
then descend and sit, with outstretched  
wings, on water for ca. 10-20 seconds, then  
flutter around, rise up in air descend,  
sit on H<sub>2</sub>O (at which time the head would  
be thrust about in the water)

SI-MNH-958-e  
Rev. 5-66





Ship  
Direction

SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

*P. J. Gould*

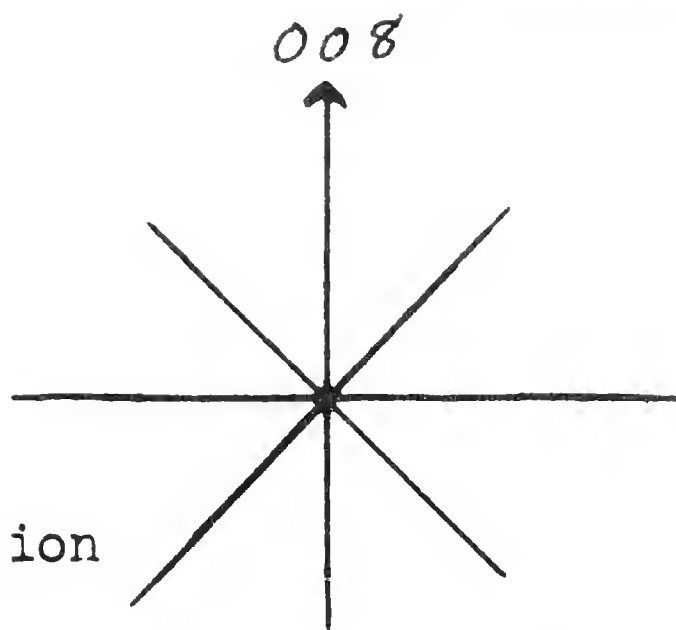
Date 21 July 1967  
Pg. # 1

SPECIMEN  
or

*Sunrise = 0533*

*Begin Observation = 0545*

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
0556	Leach / or Harcourt Petrel	2 -	⊙		
0625	" "	1 -	⊙		
0629	White-throated Storm Petrel	1 -	⊙		incomplete chest band
0635	Leach / Harcourt S. 12	1 -	⊙		
	Socorro Petrel	1 -	⊙		small white patch on sides of wings
0654	Harcourts? Storm Petrel	1 -	⊙		
0700	Storm Petrel	1 -	NE		
0723	Socorro Petrel	1 -	⊙		
0730	no				
To	obs.				
0750					
0820	Leach / or Harcourt Petrel	1 -	⊙		
0826	" "	2 -	→ N		
0834	" "	1 -	⊙		
0840	" "	1 -	→ E		
0846	" "	2 -	→ SW		
0848	" "	1 -	→ SW		
0852	" "	1 -	→ SW		
0918	" "	1 -	⊙		
0920	" "	3 -	→ S		



Ship  
Direction

SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

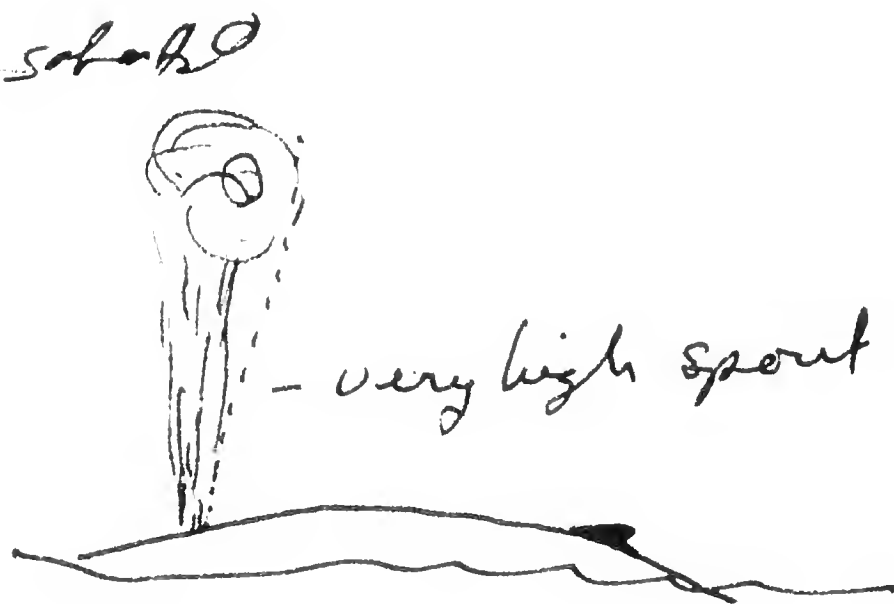
OBSERVERS:

*S. J. Gould*

Date 21 July 1967  
Pg. # 2

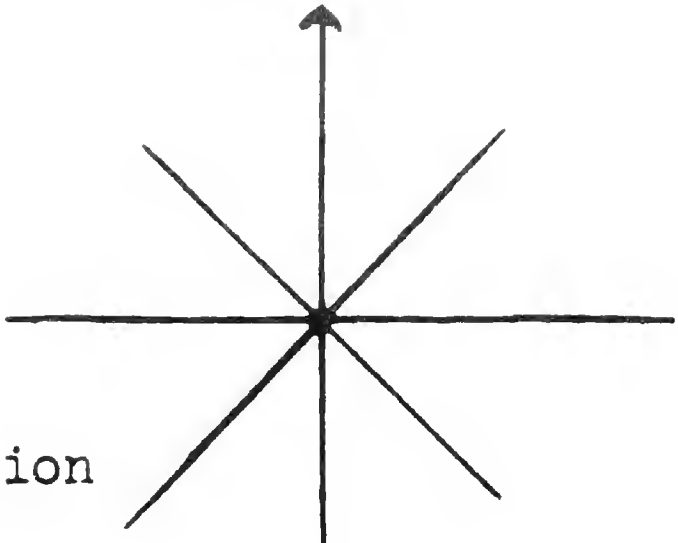
SPECIMEN  
OR

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
0928	Storm Petrel	2	☉		split up after few second - Leach/Harcourt/Socorro type
0937	Socorro Petrel	1	SW		forked tail, bird was seen.
0942	Leach/Harcourt Petrel	1	☉		
0946	" "	1	SE →		
0951	" "	1	SW →		
0957	" "	1	E →		
0958	" "	1	☉		
0959	" "	1	☉		Leach - soaring up in air, quick turn & down to lobb
1005	Socorro Petrel	2	☉		in H <sub>2</sub> O,
1027	Leach/Harcourt Petrel	1	☉		
1029	Harcourt? Petrel	1	→ SE		brood white rump, no clear dividing line, flight somewhat lighter with shorter glide than Leach's
1030	Leach/Harcourt Petrel	2	☉		good view as it flew directly under bow, tail with little or no fork to it.
1031	no				
1040	no				
1446	Leach/Harcourt Petrel	1	☉		soaked
1453	" "	1	☉		
1505	" "	1	→ W		
1510	Fiv back				
1520	whales	3+	→ SW		very high spout
1515	Storm Petrel	1	☉		
1516	Leach Petrel	1	☉		
1522	Leach/Harcourt Petrel	1			



large very large  
seen up to 75 or more  
feet long

008



Ship  
Direction

SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

*J. Gould*

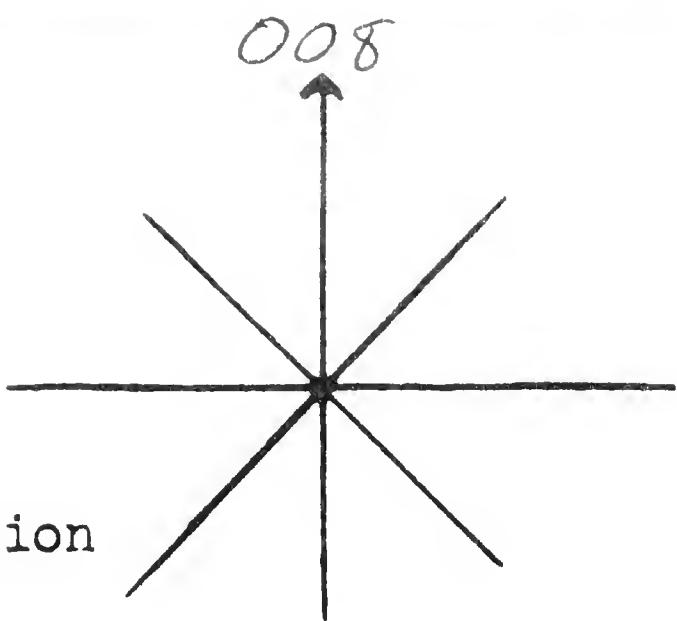
Date 21 July 1967  
Pg. # 3

SPECIMEN  
or

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
1530	Storm Petrel	1-	⊙		
1537	" "	2-	⊙		split up & went different directions
1540	Leach's / Horned Petrel	1-	⊙		
1551	" "	1-	on 420		separated when flushed
1557	" "	1-	⊙		
1600	" "	1-	⊙		
1601 To 1700	no obs.				
1736	Storm Petrel	1		1710 1716	slow speed not too resumes full speed flw like Leach's

Same watch  
at sunset 1840





Ship  
Direction

SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

*J. Gould*

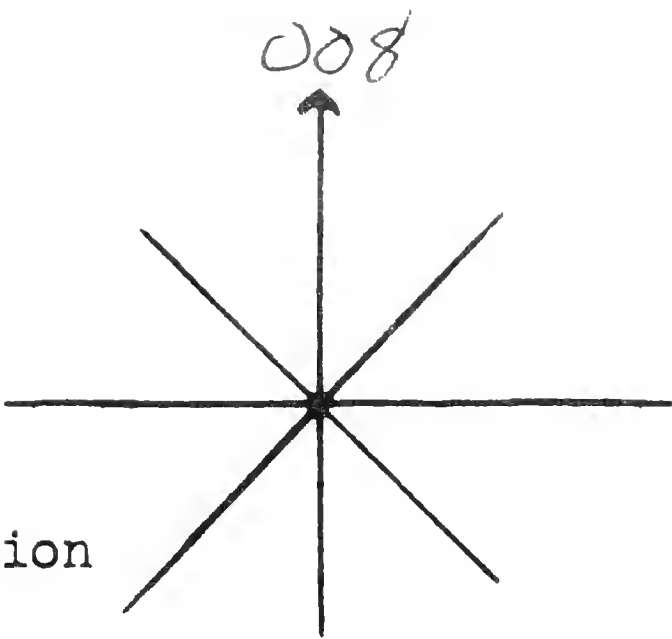
Date 22 July 1967  
Pg. # 1

SPECIMEN  
or

*Seemingly = 0531*

*Begin Observations = 0545*

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
0611	Leach/ Harcourt Petrel	1-	→E		OCEANODROMA CASTRO flew aboard this morning at 0630 - others were also reported flying around ship lights
0645	Sooty Tern	1-	⊙		
0657	Shear/Pet	1-			adult
0658	Leach/ Harcourt Petrel	1-	⊙		medium to large size - white below
0711	Storm Petrel	1-	⊙		Leach's/Harcourt/Socorro
0717	Leach/ Harcourt Petrel	1-	→NE		
0723	Storm Petrel	1-	NE		Leach/Harcourt/Socorro - moving fast
0723	" "	1-	NE		" " " " " "
0728	Leach/ Harcourt Petrel	1-	SW		
0730 To 0750	NO Obs.				
0755	Storm Petrel	2-	NE		Leach/Harcourt/Socorro - split up
0809	Harcourt P Petrel	1-	E		Very shuffling to tail, broad, white + clean cut rump patch without dark divider, good view, good light, flew like a Leach but with less gliding, and lighter appearing wing beat, wing beats more evenly spaced, not as erratic, as Leach's.
0813	Storm Petrel	1-	⊙		
0821	white-throated or white-bellied Storm Petrel	1-	⊙		kicking off water in typical white-throated fashion, but I could not see throat area. <del>It</del>
0826	Harcourt/ Leach Petrel	3-	Follow ship		
0836	Storm Petrel	1-	⊙		follow for less than 5 minutes
0840	" "	1-	⊙		



Ship  
Direction

SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

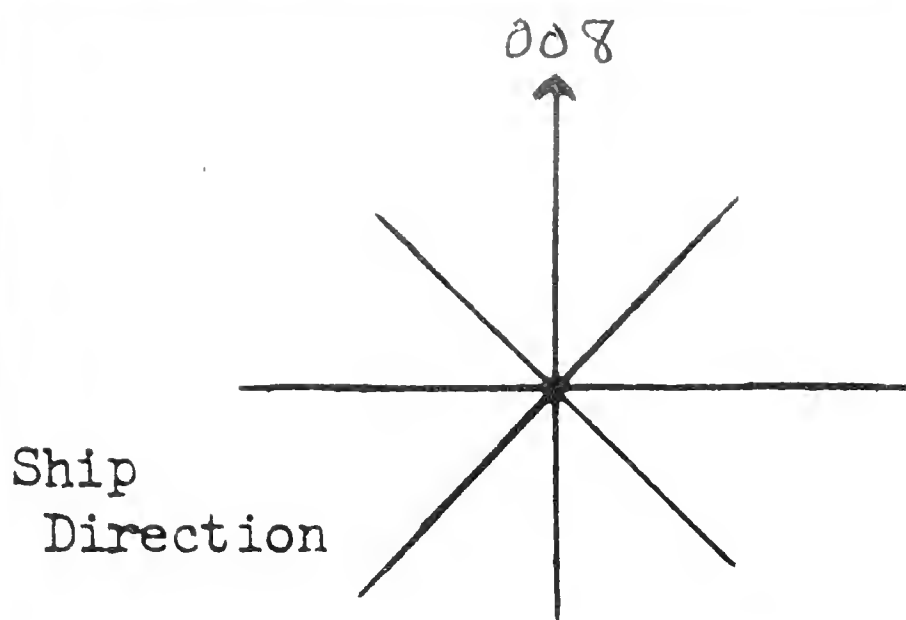
*J. Gould*

Date 22 July 1967  
Pg. # 2

SPECIMEN  
or

TIME SPECIES # DIR. BAND NO. REMARKS

0843						
0851						there are now 4 Leach/Harvard Petrel following ship.
0857	Harvard Petrel	1-				one Leach/Harvard in wake of ship
0858	Murphy Petrel	1-				
0900	Seal	1-				all dark but with grey underwing areas. Flew like a frigatebird. Relatively good views, but not the best.
0904	Leach/Harvard Petrel	2-	NE			flying fast.
0907	" "	1-	NE			
0907	Stom Petrel	1-	NE			
0910	Leach/Harvard Petrel	1-	SW			Leach/Harvard/Scoons
0915	" "	1-	E →			
0924	" "	1-	E →			
0927	" "	1-	E →			
0929	" "	1-	W →			
0930	" "	2-	SW			
0933	" "	1-	SW			Probably Harvards
0936	Harvard Petrel	1-	SW			
0940	Scoons Petrel	1	⊙			Very shadowy form, broad + uninteresting wing patch. Slight lighter & more constant type.
0943	Stom Petrel	1-	SE			
0943	" "	1-	SE			Leach/Harvard/Scoons
0946	Harvard/Leach	1-	⊙			" " " "
0948	Stom Petrel	1-	→ E			Probably Harvards
0950	Leach/Harvard	2-	⊙			Leach/Harvard/Scoons
0952	Stom Petrel	1-	→ E			Seeds, swooping high in air then down over water
1006	Leach/Harvard Petrel	2-	W			Leach/Harvard/Scoons



SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

*P. Gould*

Date 22 July 1967  
Pg. # 3

SPECIMEN  
or

TIME SPECIES # DIR. BAND NO. REMARKS

1009 Storm Petrel 1- E Leach / Hancock / Socorro

1013 " " 1- E " " "

1015 Hancock / Leach Petrel 2- @ - probably Hancock's

1017 " 1- W

1017 " 1- W

1022 Storm Petrel 1- E Leach / Hancock / Socorro

1025 NO  
TO  
1300 Observed. Salinity = 34.30  
H<sub>2</sub>O temp. = 28.8°C } surface

1322 Leach / Hancock Petrel 1- 1300 slow speed out tow in progress  
1338 resume full speed course now 010°

1352 " " 1- NE

1413 " " 1- W - probably Hancock's

1430 " " 1- @ - probably Leach's

1515 Hancock's Petrel 5- on H<sub>2</sub>O scattered when flushed - very close in view

1520 Leach / Hancock Petrel 1- tail only slightly forked & look round when spread, white patch clear cut & looks large  
1526 " " 1- NE No trace of dividing line - flight with some ruffled (open lighter) wing beats

1532 Pterodroma 1- E less gliding and no side slips than Leach's. dark under wing border, white bellie, vent covered with dusky grey, all back color

1542 Leach / Hancock Petrel 1- Probab. Leach's  
1550 white-throated Storm Petrel 1- @

1600 Swallow Tailed Gull 1- Adult Flew slowly over ship but did not stop. Red legs seen, dark grey head - reminded me of a very large Sabine's gull. Saw forked white tail and distinctive wing pattern - absolutely no doubt on classification  
Sunset 1744 (over)

SI-MNH-958-e

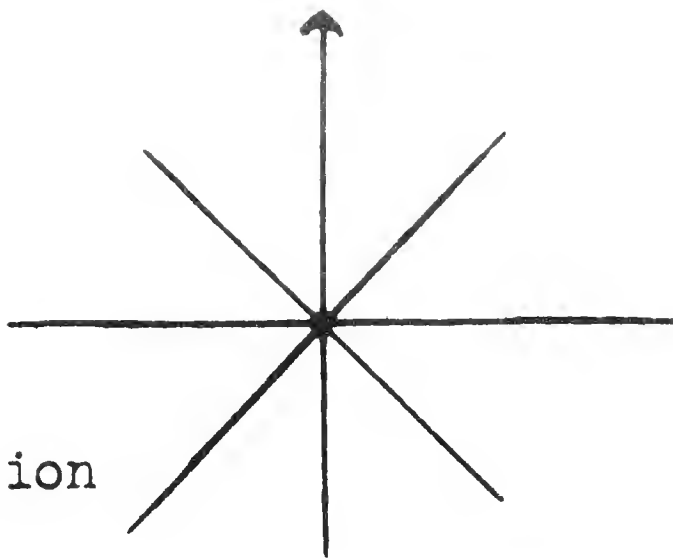
Rev. 5-66



1600 about a thousand yards from the ship the Fork Tailed Gull

swooped slightly up and hovered with bill down just like a  
large turn preparing to dive. The gull then dropped  
to ca 10' above the water but did not pursue the fish  
it had apparently sighted. The bird then flew leisurely  
(very light, steady, slow wing beats) away  
P. J. Gould

005

Ship  
Direction
 SMITHSONIAN INSTITUTION  
 DIVISION OF BIRDS  
 AT SEA DAILY LOG - E

OBSERVERS:

 J. J. Gould  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_
SPECIMEN  
or

Sunrise = 0530

Date 23 July 1967  
Pg. # 1TIME SPECIES # DIR. BAND NO. REMARKS *begin observations 0550*

					2 Frigatebirds (both with some white below) were reported at 0500.
					[Last night ca 2200, the ship stopped at a fishing buoy and many (ca 6 <sup>±</sup> ) boobys were <del>reported</del> on and around it reported. [consider blue-face Booby]
0605	Blue-face Booby	1-	⊙		Imm (1st yr.) [a sea lion was reported following the ship for awhile at 2400] on Imm. ♂ <u>Zalophus californianus</u>
0618	Sooty Petrel	1-	→	W	
0619	Shear/Pet	1-	→	W	
0630	Great Frigatebird	1-	⊙		Immature - dorsal wing bars observed
0730 To 0750	NO 065.				0705 the blue-face Booby from 0605 and the Great Frigatebird from 0630 are now circling behind the ship. The boobys sat down in the water next to a floating, round, green, Turtle. Booby departed ca. 0720, Frigatebird departed ca. 0715.
0804	Storm Petrel	1-	→	Leach/n Hancock/n Sooty	
0806 To 0819	Frigatebirds Porpoise	18- 50±	⊙		Frigate = 2 at 0806 - 4 possible skipjack were seen at 0822 3 at 0808 5 at 0810 7 at 0813 15 at 0814 - birds began circling higher 16 at 0816 - birds began to disperse 18 at 0817 - birds high & scattered at 0820 we were about even with the porpoise school. our maximum speed is 11 1/2 knots at this time so the frigates were at least 2.7 miles distant when first observed.

14 min

~~14~~

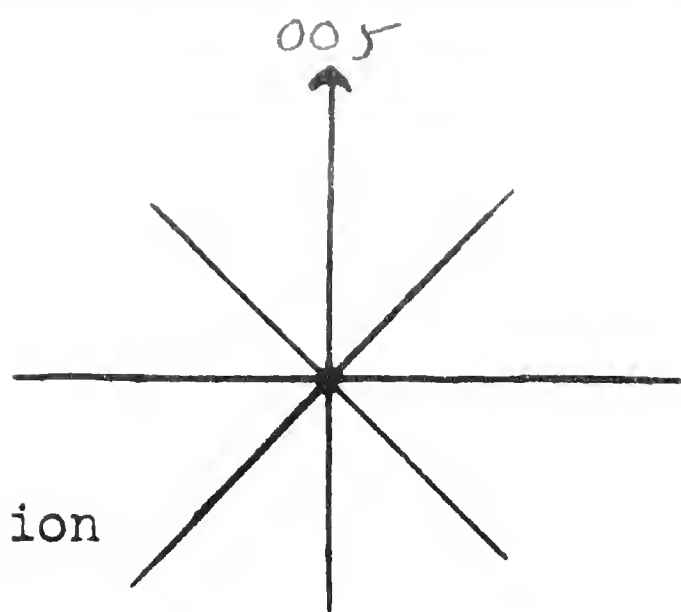
$$\frac{11.5}{60} = \frac{x}{14}$$

$$\begin{array}{r} 2 \\ 11.5 \\ \hline 14 \\ 460 \\ 115 \\ \hline 161.8 \end{array}$$

$$\begin{array}{r} 2.6 \\ 60 \overline{) 161.00} \\ \underline{120} \\ 410 \\ \underline{360} \\ 500 \end{array}$$



Ship  
Direction



SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

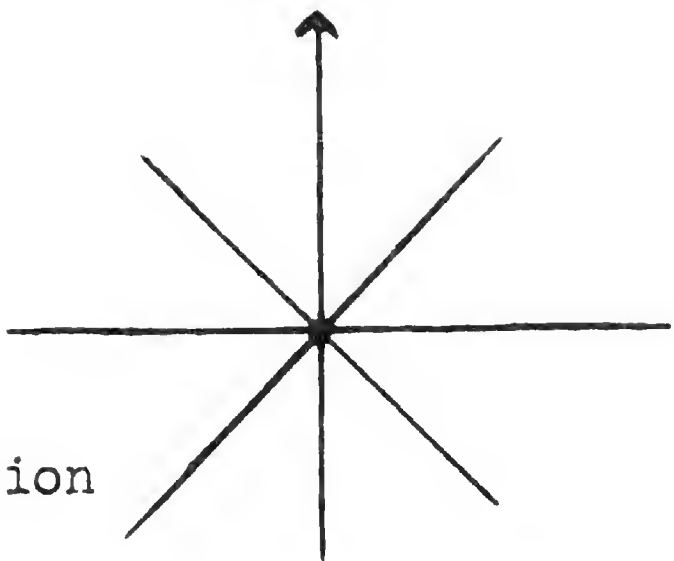
*P. J. Gould*

Date 23 July 1967  
Pg. # 2

SPECIMEN  
or

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
0827	Leach/ Harcourt Petrel	1-	⊙		Large number of flying fish are around today. They have been rather scarce for the last few days.
0831	Shear/Pet	<del>SP</del> 1-	SE		
0840	Leach Petrel	2-	⊙		
	Sooty Petrel	2-	⊙		forked tail & divided wing patch seen
0845	Leach/Harcourt Petrel	1-	-		definite grey wing lining but otherwise a I dark wings. otherwise flew & looked exactly like the Leach's.
	Sooty Petrel	2-	ON H <sub>2</sub> O		
	Storm Petrel	1-	-		Leach/Harcourt/Sooty
0849	Storm Petrel	1-	E		" " "
0905	" "	1-	⊙		
0919	Red-footed Brown Booby	1-	⊙		Immature (1st yr.)
0958	Great Frigatebird	1-	⊙		Immature - wing, bare seen
1013	Sooty Petrel	6-	ON H <sub>2</sub> O		Storm petrel began feeding, often flushed for water swooping up then down & rest on water, wings elevated & head bobbing, beneath surface.
	Leach Petrel	1-			
	Storm Petrel	1-			
	Pterodroma	1-			
1030	Hermode Petrel	1-	ON H <sub>2</sub> O		all dark, small to medium size.
					Dark Phone
1030					Sun. Temp. = 26.5
1310					Sun. Sal. = 34.58
					1310 - slow speed net tow in progress
1342	Sooty Petrel	1 -	W		1335 - resume full speed
1401	" "	1 -	SE		

005

Ship  
Direction

SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

*J. Gould*

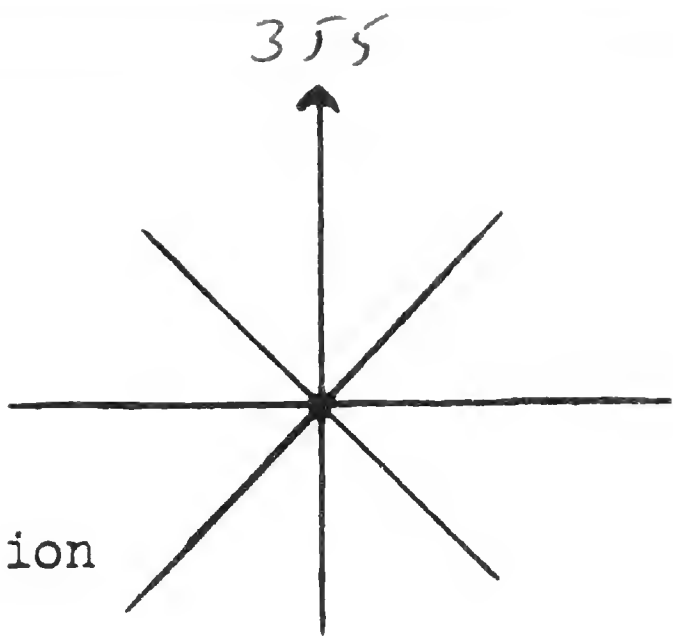
Date 23 July 1967  
Pg. # 3

SPECIMEN  
or

TIME SPECIES # DIR. BAND NO. REMARKS

1450	Shear Frigatebird	1	☉		Immature with all rusty head. dorsal wing bars seen. Appeared suddenly looked the ship over and then proceeded to gain altitude by flying in an upward spiral until he was out of sight
1502	Sooty Petrel	1	☉		
1512	" "	2	☉	spies up.	
1600	NO				
70					
1710	065.				

Secure Observations  
at 5 ans at 17 ~~00~~  
49



SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

*V. J. Gould*

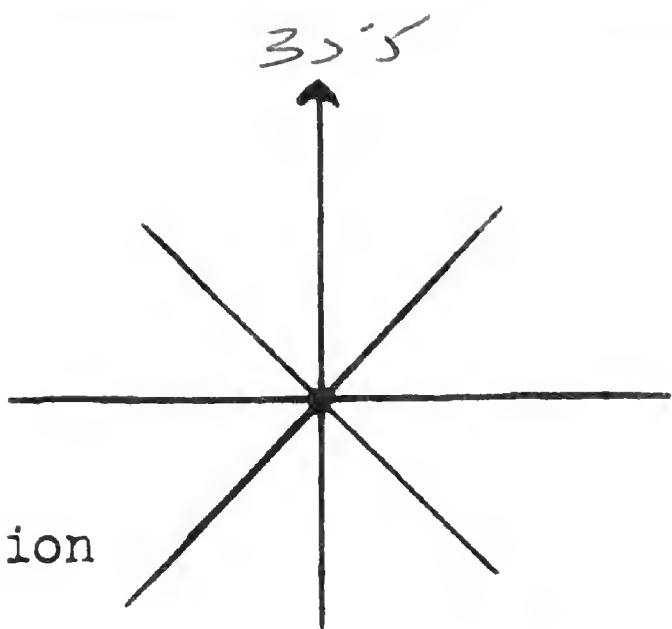
Date 24 July 1967  
Pg. # 9

SPECIMEN  
or

*Sumner = 0522*  
*begin obs. 0545*

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
0610	wedge-tail shearwater	1	on H <sub>2</sub> O		dark then
0616	juv. tern-like Petrel	1	⊙		molting at least on upper tail coverts
0620	"	1	⊙		
0621	"	1	⊙		
0624	black-wing Petrel	2	SW		
0629	juv. tern-like Petrel	2	⊙-NE		
0629	Sooty? Shear.	1	⊙-S		
0639	juv. tern-like Petrel	1	SW		
0652	pterodroma	1	W		white bellie but may have had all dark underwings
0715	sooty? shearwater	1	SW		
0719	juv. tern-like ? Petrel	1	SW		
0719	Pterodroma	1	W		
0721	shearwater	1	W		all dark
0727	juv. tern-like Petrel	1	⊙		
0727	christian island shearwater	1	⊙		a cell seen & near enough to juv. tern-like Petrel to compare size
0730 to 0750	no obs.	1			
0812	juv. tern-like Petrel	1	S		
0816	tern	1	SE		all dark juv. Sooty?
0819	Leach's or Horned Petrel	2	⊙		

Ship  
Direction



SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

*P. G. G. G.*

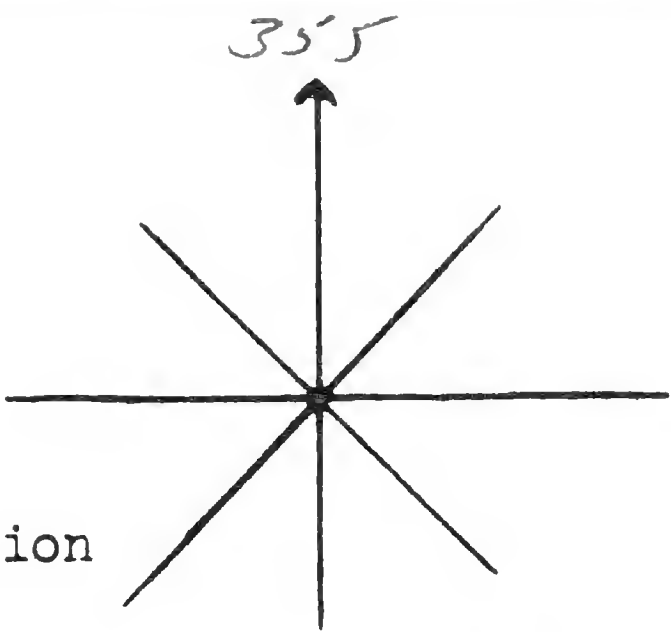
Date 27 July 1967  
Pg. # 2

SPECIMEN  
or

TIME SPECIES # DIR. BAND NO. REMARKS

0822	Sooty Petrel	1	→ NW	
0824	Shear/Pet	1	⊙	Probably Juan Fernandez Petrel
0826	Black-wing Petrel	1	→ SW	
0826	Sooty Petrel	1	⊙	
0830	Wedge-tail Shearwater	1	SE	dark phase
0833	Juan Fernandez Petrel	1	3	
0834	Frigatebird	3	⊙	far in distance
0841	Sooty Petrel	1	→ W	
0843	Wedge-tail ? Shearwater	1	→ SW	dark phase
0856	Wedge-tail Shearwater	1	⊙	dark phase
0856	Phoenix/n Tokitiki Petrel	1	⊙	
0900	Black-wing Petrel	1	→ SE	
0902	Juan Fernandez Petrel	1	→ S	
0906	Frigatebird	1	⊙	high
0909	Shear/Pet	1	→ W	
0910	Juan Fernandez Petrel	1	→ S	
0910	Wedge-tail Shearwater	1	→ S	light phase
0911	Juan Fernandez Petrel	1	→ SW	





SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

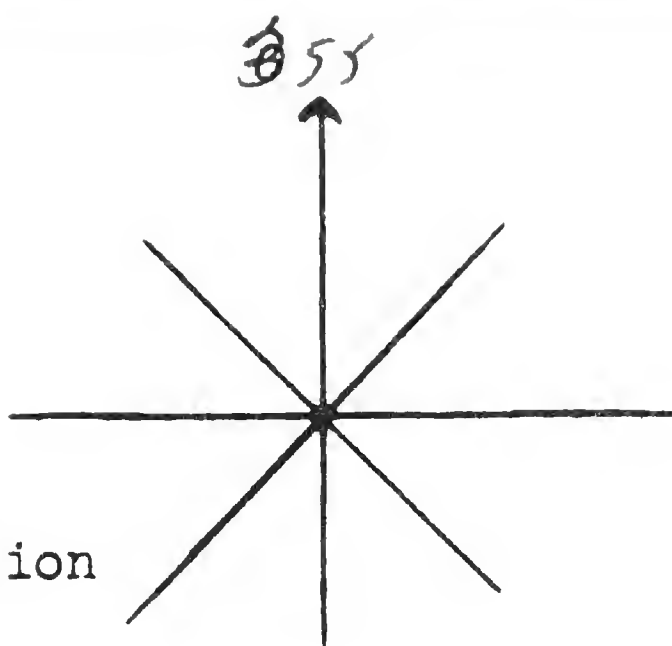
*J. G. Gaud*

Date 27 July 1967  
Pg. # 3

SPECIMEN  
or

TIME SPECIES # DIR. BAND NO. REMARKS

	0915	from Family Petrel	1	→ S		
	0918	Shearwater	1	→ W		wedge-tail (light) or Pink-footed
	0920	from Family Petrel	1	⊙		
	0921	Harporhynchus / or Leach's Petrel	1	⊙		looked & flew more like Harporhynchus.
	0923	from Family Petrel	1	→ SW		edges / rain squall
	0923	Sooty Petrel	2	⊙		" " "
	0925	from Family Petrel	1	→ S		" " "
	0927	" "	1	→ S		" " "
rain	0935	" "	1	⊙		collected - rain
"	0935	Shear Petrel	1	⊙		
"	0937	Leach / Petrel	2	⊙		
"	0940	from Family Petrel	1	→		
19	0942	Leach / Harporhynchus	1	⊙		
"	0943	from Family Petrel	2	⊙		
"	0949	Leach / Harporhynchus	1	⊙		
"	0950	from Family Petrel	1	⊙		
"	0955	" "	5	on 4, 20		1 collected



Ship  
Direction

SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

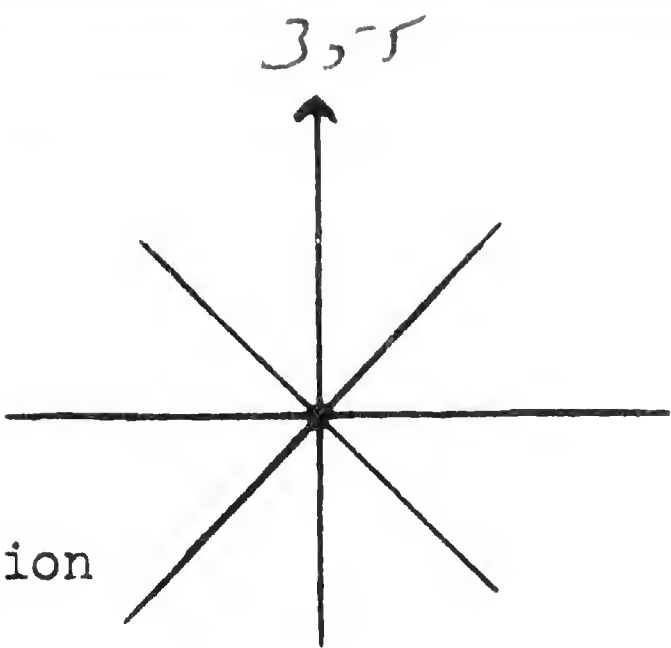
OBSERVERS:

*P. J. Powell*

Date 24 July 1967  
Pg. # 4

SPECIMEN  
or

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
0955	Storm Petrel	2	⊙		rain started ca. 1000
1006	Jaeger Family Petrel	1	⊙		
1007	" "	1	⊙		
1008	Phalarope/a Shearbird	1			
1009	Wedge-tail	1	SE		last photo
1010	Storm Petrel	1	⊙		
1011	Jaeger Family Petrel	1	NW		
1011	<del>Jaeger Family</del> Petrel	2	⊙		large size
1015	" "	1	⊙	420	large size
1016	Wedge-tail Shearwater	3	⊙		last photo
1025	Jaeger Family Petrel	1	4.0		
1027	Leach/Harriet Petrel	1	⊙		
1029	<del>Jaeger Family</del> Petrel	1	⊙		difficult, larger than Leach's
1030 To 1610	NO OBS.				
1612	Blue face Booby	1	⊙		seen has been around water station ca seen ca 1200
1615	Jaeger Family Petrel	2	NW		
1618	Jaeger/a White Petrel	1	⊙		
1623	Shear/Pet	1	NW		
1624	Wedge-tail Shearwater	1	⊙		



SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

*[Signature]*

Date 24 July 1967  
Pg. # 5

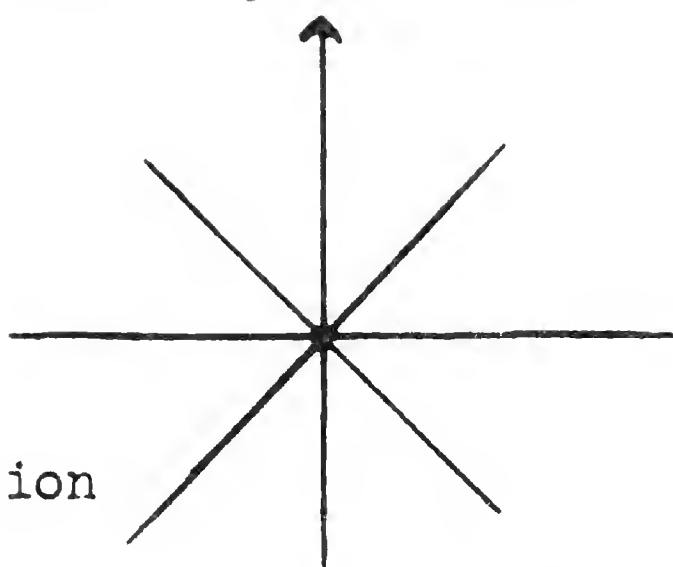
SPECIMEN  
or

TIME SPECIES # DIR. BAND NO. REMARKS

(1752)

1630	Wedge tail Shearwater	2 -	⊙		1 dark 1 light
1630	NO				
1655	obs				
1700	<del>Booby</del> Red-footed	1 -	⊙		1st yr. solid light brown somewhat lighter below with definite darker narrow chest band. bill lead grey - adult bluish
1703	Shear/pet	6 -	SW		
1704	Green Tropicbird	1 -	⊙		spread out & moving slowly
1705	Shear/pet	1 -	SW		
1705	" "	1 -	SW		
1708	" "	1 -	SW		
1708	" "	1 -	SW		
1710	" "	1 -	SW		
1710	" "	1 -	SW		
1710	" "	1 -	SW		
1714	" "	1 -	SW		
1715	" "	1 -	SW		
1715	Pink footed Shearwater	1 -	⊙	on H <sub>2</sub> O	
1715	Pink footed Shearwater	4 +	SW		
1716	<del>Red-footed</del> Booby	1 -	⊙		diff + bird - imm
1720	Porpoise	30 +	SW		
1723	Shear/pet	1 -	SW		
1723	" "	1 -	SW		
1723	" "	1 -	SW		
1724	" "	1 -	SW		
1726	Green Tropicbird	1 -	⊙		
1730	Shear/pet	1 -	SW		

355

Ship  
Direction
 SMITHSONIAN INSTITUTION  
 DIVISION OF BIRDS  
 AT SEA DAILY LOG - E

OBSERVERS:

*p/good*

 Date *24 July 1967*  
 Pg. # *6*

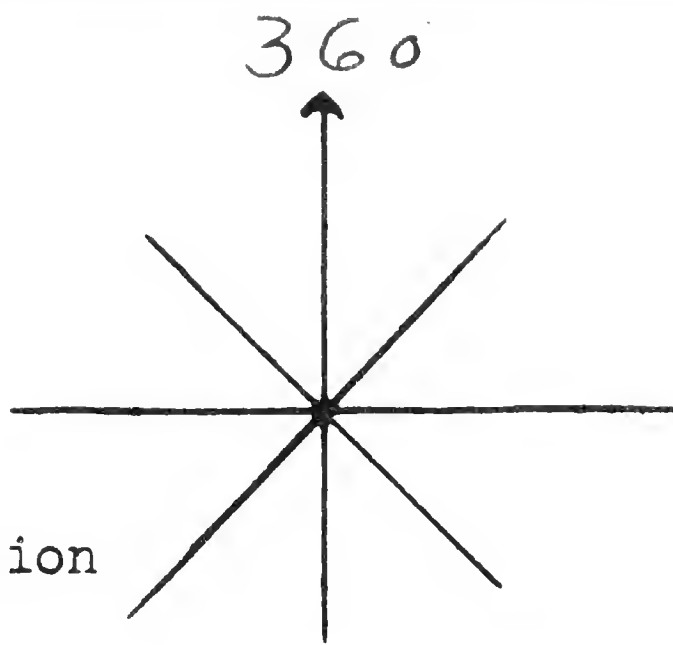
 SPECIMEN  
 or

TIME SPECIES # DIR. BAND NO. REMARKS

1739	Storm Petrel	1	⊙	—	Leach/Harcourt/Socorro
1739	" "	1	⊙	—	" " "
1742	Iron Frenzy Petrel	1	⊙		
1745	" "	1	→W		
1745	Shear/pet	1	→W		
1751	" "	1	⊙	—	Probably J. K. P.
1751	" "	1	⊙	—	" " " " "
1752	Harcourt? Storm Petrel	1	⊙	—	very little if any fork in tail.

*Specie Observation of*  
*Janet 1752*





Ship  
Direction

SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

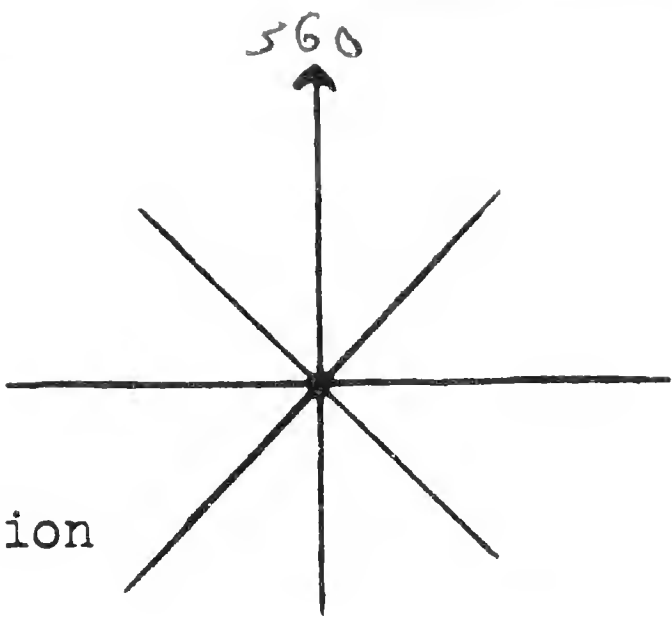
*P. J. Gould*

SPECIMEN  
or

*Sunrise = 05<sup>2</sup>04*

Date *25 July 1967*  
Pg. # *1*

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
0510	Juan Fernandez Petrel	1 -	⊙		} 5 minute look before coffee
0512	" "	1 -	⊙		
0514	" "	1 -	⊙		
0515 To 0545					
0545	Shear/Pet	1 -	W		
0546	Juan Fernandez Petrel	1 -	⊙		
0547	Small Pterodroma	1 -	SW		
0548	Red-footed Booby	2 -	⊙		1 <sup>st</sup> yr. light brown all over somewhat lighter below.
0600	Blue-foot Booby	5 -	Fall ship		Immatures
0600	Juan Fernandez Petrel	1 -	⊙		
0605	" "	1 -	⊙		
0613	" "	2 -	⊙		
0613	" "	1 -	m		
0614	" "	1 -	H <sub>2</sub> O		
0614	" "	1 -	⊙		
0614	" "	1 -	m		
0617	" "	7 -	H <sub>2</sub> O		Tool as 2 minutes to reach <del>the</del> after I scattered him
			"		all ca 50 yds apart except 2 sitting, rest to each other
0625	Wedge-tail Shearwater	1 -	⊙		0620 [Blue foot + Brown Boobys still with us
0625	Juan Fernandez Petrel	1 -	⊙		one Booby (ad brown) flew close to a Juan Fernandez Petrel and pecked at him in mid air, Petrel flinched and fled away]
0630	" "	1 -	⊙		now at least 8 in sight but probably most of them are previous birds
0630	" "	1 -	⊙		now at least 10 around and scattered at various distances around ship



Ship  
Direction

SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

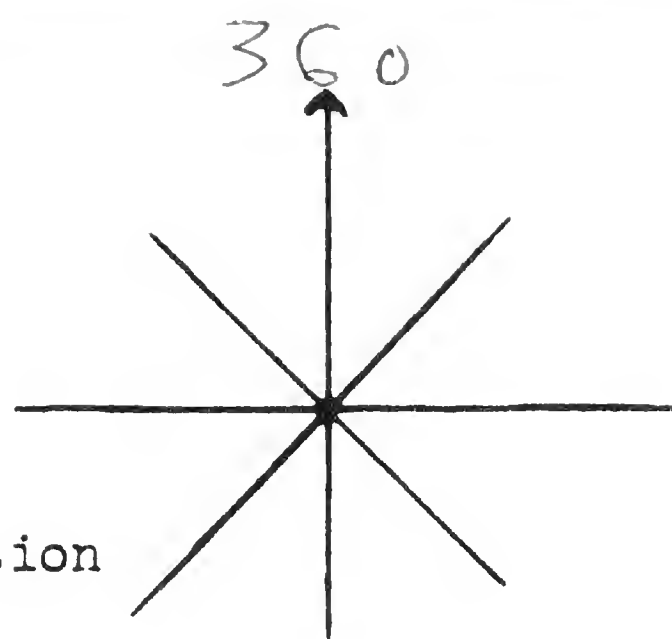
OBSERVERS:

*R. J. Gould*

Date *25 July 1967*  
Pg. # *2*

SPECIMEN  
or

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
0625	Leach's Petrel	75 ± 5	-		well scattered and no active feeding
0640	Wedge-tail Shearwater	5 ± 1	-	dark phase	
	Wedge-tail Shearwater	2	-	on H <sub>2</sub> O	
0645	Leach's Petrel	12	-	on H <sub>2</sub> O	also many scattered <del>Leach's</del> Leach's Petrel flying, but figure there has already been counted -
0649	Sooty Tern	3	-		
0649	Leach's Petrel	5	-	on H <sub>2</sub> O	
0652	" "	5	-	on H <sub>2</sub> O	
0653	" "	1	-	"	
0654	" "	9	-	"	
0655	" "	2	-	"	
0655	" "	4	-	"	
0655	Wedge-tail Shearwater	1	-	① - dark phase	
0656	Leach's Petrel	4	-	on H <sub>2</sub> O	
0656	" "	1	-	on H <sub>2</sub> O	
0658	" "	5	-	"	
0658	" "	3	-	"	
0700	Wedge-tail Shearwater	2	-	②	
0704	Wedge-tail Shearwater	3	-	③ - dark phase	
0705	Leach's Petrel	2	-	on H <sub>2</sub> O	
0707	" "	7	-	"	
0708	Red-footed Booby	1	-	④ - subadult - almost adult light phase	
0715	Leach's Petrel	1	-	on H <sub>2</sub> O	at 0710 there are still 60 ± Leach's Petrel flying at various distances & directions from ship
0724	" "	1	-	5	Heads for good view?
0724	" "	4	-	5	
0724	" "	1	-	5	



Ship  
Direction

SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

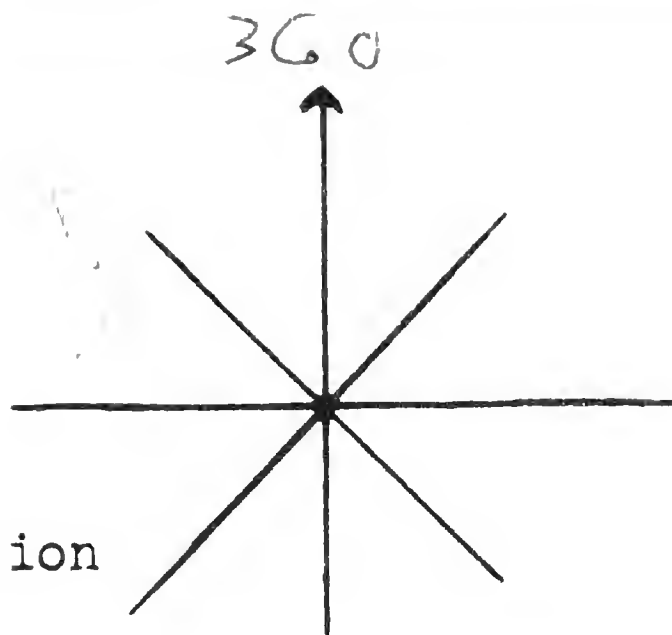
OBSERVERS:

*[Signature]*

Date 25 July 1967  
Pg. # 3

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
0726	Juan Fernandez Petrel	1	⊙		
0728	" "	2	⊙ 4.0		
0729	" "	2	⊙		
0729	Wedgetail Shearwater	1	⊙		
0730	" "	1	⊙		dark phase
0730	Red footed Booby	1	⊙		1st yr.
0732	Wedgetail Shearwater	4	⊙		dark phase
0734	Pomarine Jaeger	2	⊙ (420)		0733 - school of jumping skipjacks. dark phase
0735	Juan Fernandez Petrel	1	S		
0735	" "	1	S		
0735	" "	1	S		
0735	" "	1	S		
0735	" "	1	S		
0740	" "	1	S		
0742	Heard's	1	⊙ (420)		dark phase
0742	Blue-foot Booby	2	⊙		Imm.
0743	Juan Fernandez Petrel	1	S		
0744	" "	1	S		
0745	" "	2	S		
0747	" "	5	S		
"	" "	1	S		
"	" "	1	S		
"	Shear/Pet	1	⊙		
"	Wedgetail Shearwater	2	⊙		dark phase
0749	Juan Fernandez Petrel	5	S		dark phase
0749	Hermann's Petrel	1	S		dark phase

Ship  
Direction



SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

*D. Gould*

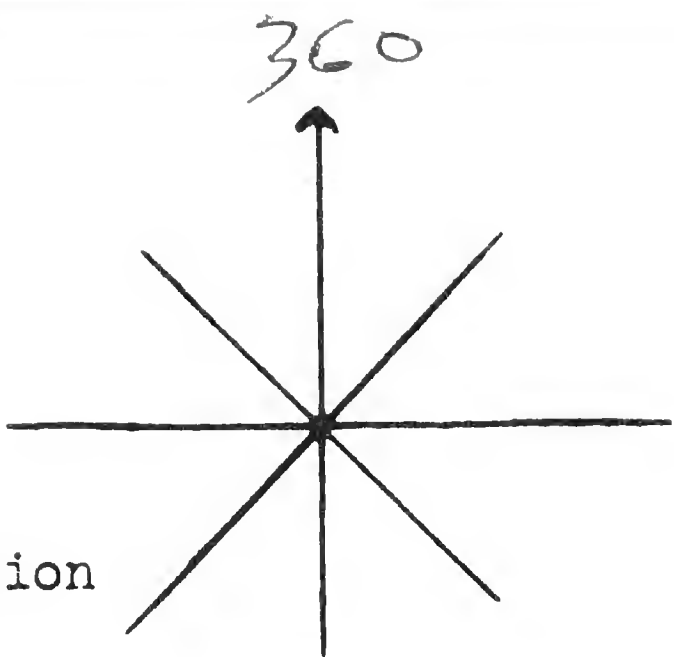
Date *25 July 1967*  
Pg. # *4*

SPECIMEN  
or

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
0750 To 0810	<i>NO</i> <i>065</i>				
0810	<i>Leach's Petrel</i>	<i>3-</i>	<i>⊙</i>		
0813	<i>Wedge-tail Shear.</i>	<i>1-</i>	<i>S</i>		<i>dark phase flying like a Pterodroma</i>
0814	<i>" "</i>	<i>1-</i>	<i>S</i>		<i>" " " "</i>
0815	<i>Leach's Petrel</i>	<i>1-</i>	<i>41 1420</i>		
0816	<i>Wedge-tail Shear.</i>	<i>1-</i>	<i>⊙</i>		<i>dark phase</i>
0818	<i>Leach's Petrel</i>	<i>2-</i>	<i>S</i>		
0819	<i>Pomarine Jaeger</i>	<i>1-</i>	<i>S</i>		<i>dark phase</i>
0820	<i>Leach's Petrel</i>	<i>7-</i>	<i>S</i>		<i>scattered</i>
0821	<i>Wedge-tail Shear.</i>	<i>1-</i>	<i>S</i>		<i>dark phase</i>
0824	<i>Leach's Petrel</i>	<i>1-</i>	<i>S</i>		
0824					<i>there are 2 imm blue-face boobies flying around</i>
0825	<i>Leach's Petrel</i>	<i>25 ± 5</i>	<i>⊙ → S</i>		
	<i>Pomarine Jaeger</i>	<i>2-</i>	<i>S</i>		<i>light phase</i>
0830	<i>Leach's Petrel</i>	<i>10-</i>	<i>S</i>		<i>scattered</i>
0840	<i>" "</i>	<i>20 ± 3</i>	<i>S</i>		<i>scattered</i>
0843	<i>Wedge-tail Shear.</i>	<i>1-</i>	<i>⊙</i>		



Ship  
Direction



SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

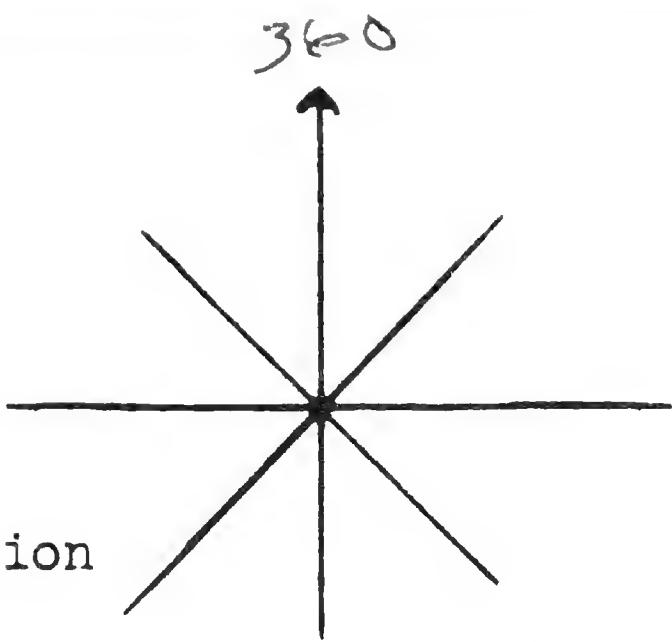
*[Signature]*

Date 25 Feb 1967  
Pg. # 5

SPECIMEN  
or

TIME SPECIES # DIR. BAND NO. REMARKS

0847	Manx Shearwater	1-	⊙		
0850	Lesser Frigates	6-	21 1420		
0851	Pomarine Jaeger	1-	S		light phase
0853	Lesser Frigates	20 ± 5	⊙		rather concentrated.
0855	" "	5-	21 1420		
0857	" "	3-	"		
0858	" "	1-	"		
0906	Pink-footed Shearwater	1-	S		
0907	Lesser Frigates	1-	S		
0914	Pomarine Jaeger	1-	S		light phase
0915	Wedge-tail Shearwater?	1-	S		dark phase
0916	Kermadec Petrel?	1-	S		dark phase
0920	Lesser Frigates	2-	⊙		
0924	Red-bill Tropicbird	1-	21 1420		took picture (chub I.D.)
0930	Shearwater	1-	21 1420		larger than a at least as large as body all chocolate brown - looked like a Skua -
0931	Shearwater	1-	S		
0931	Lesser Frigates	1-	S		
0933	Red-footed Booby	3-	⊙		1-yr.
0934	Lesser Frigates	1-	S		



Ship  
Direction

SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

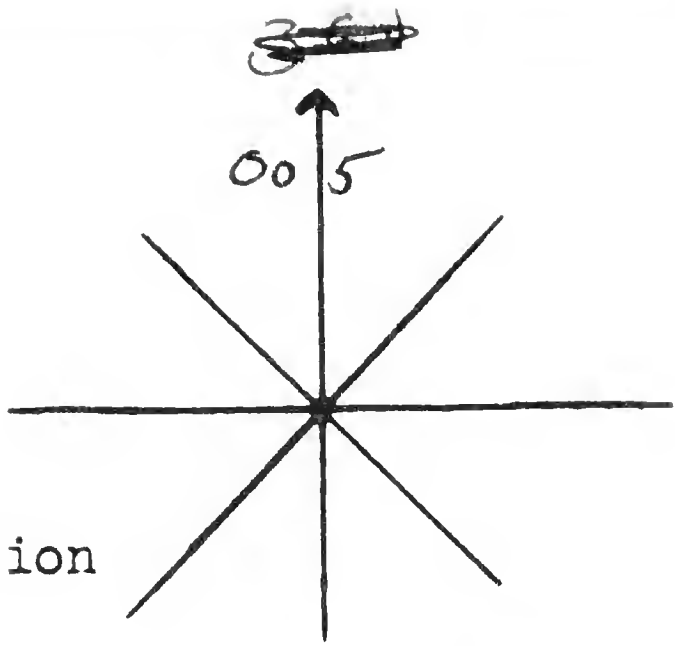
*[Signature]*

Date 25 July 1967  
Pg. # 6

SPECIMEN  
or

TIME SPECIES # DIR. BAND NO. REMARKS

0935	Wedge-tail Shearwater	1	-	S	—	dark phase
0936	"	1	-	S	—	" "
0937	frigatebird	1	-	⊙		
0940	Pomarine Jaeger	1	-	⊙	—	light phase
0945	Seal	1	-	⊙		
0950	Pterodroma	1	-	S		
0954	frigatebird	3	-	SE		
0957	"	1	-	"		
1000	"	2	-	⊙		
1000	Blue face Booby	3	-	⊙	Imm.	
1003	frigatebird	2	-	⊙		
1007	Wedge-tail Shearwater	1	-	⊙		
1009	frigatebird	1	-	SE		
1009	Wedge-tail	1	-	"	—	dark phase
1014	frigatebird	1	-	SE		
1017	"	1	-	S		
1019	"	6	-	SE		
	Wedge-tail Shearwater	1	-	SE	—	dark phase
1021	"	1	-	SE	—	" "
1022	Wedge-tail	1	-	SE	—	light phase
1027	frigatebird	1	-	SE		
1029	" "	1	-	⊙		
1030	Boobys	2	-	⊙	—	Imm. all light brown and dark longer than Red-foot.



SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

*P. J. Gould*

Date 25 July 1967  
Pg. # 2

SPECIMEN

or

TIME SPECIES # DIR. BAND NO. REMARKS

1030  
1400

no  
obs

surface H<sub>2</sub>O temp. = 28.3°  
" " Salinity = 34.00

1400

Blue-face  
Booby  
Red-footed  
Booby

3 ~~1~~  
9-

on water, 28 species, 41 ~~blue-face Booby~~,

1 ~~bird~~ with white head & lower parts.  
rest all light brown with dark chest  
band - Birds ~~still~~ flying around at 1410  
still present at 1430, 3 Blue-face still  
around at 1500

1410

frigatebird  
petrel

1 - (C)

1420

shear/pet

2 - S

1430

Star Petrel

2 - (C)

1438

" "

1 - (C)

1438

frigatebird  
petrel

1 - (C)

1444

shear/pet

1 - S

all dark

1445

" "

1 - S

" "

1514

Wedge  
shearwater

1 - (C)

1520

Red-footed  
Booby

2 - over ship

1<sup>st</sup> yr. all brown with dark chest band  
back again at 1550

1535

Wedge  
shearwater

1 - on the

1540

frigatebird  
petrel

1 - S

1541

"

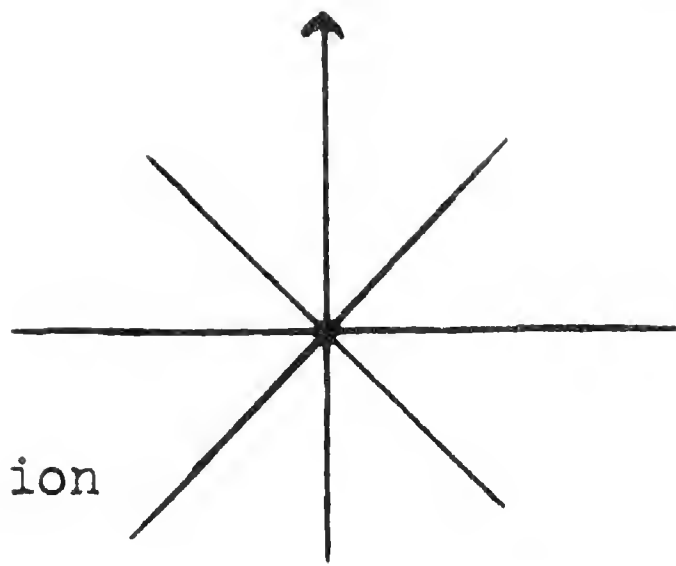
1 - on

1555

shear/  
Harcourt  
Sooty tern  
petrel

1 - on H<sub>2</sub>O  
2 - "

1558 Flock of Booby  
Blue-face = 3  
Red-foot = 10



Ship  
Direction

SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

*P. J. Gould*

Date 25 Feb 1967  
Pg. # 5

SPECIMEN  
or

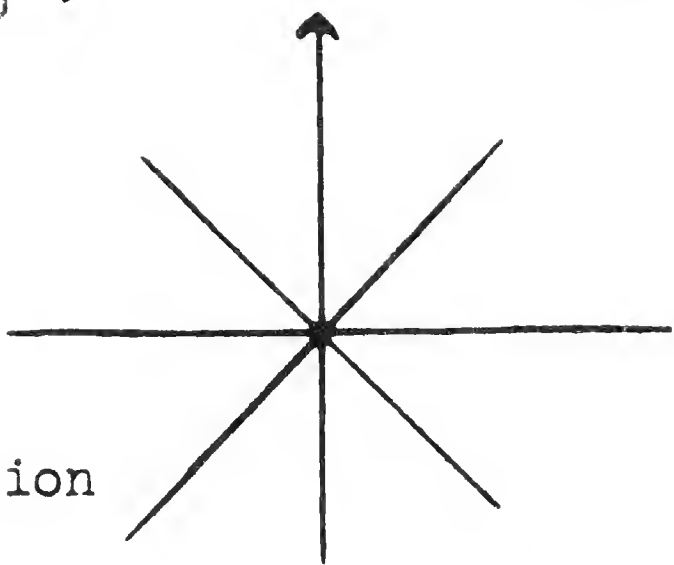
TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
1600 to 1700	no obs				
1700	Red-footed Booby	3 -	☉		1st yr.
1700	Storm Petrel	2 -	☉		Leach/Harcourt / Sooties
1725	Red-footed Booby	26 ± 2 ±			1 sub ad red imm.
	Blue face booby	4 ± 1 -			Imm
1730	Leach/n Harcourt	1 -	NE		

1700 - slow speed net tow  
1723 - resume full speed

*Secure Observation  
observed 1856*



31  
159  
43  
77  
53  
30  
54  
Ship  
Direction



SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

*P. Gould*

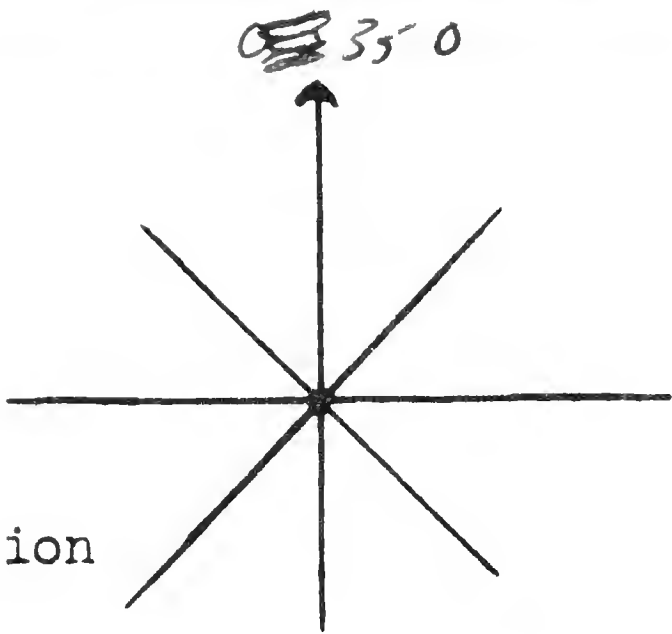
Date 26 July 1967  
Pg. # 1

SPECIMEN  
or

*Survive = 0515*

*begin observations - 0530*

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
0530	Red-footed Booby	1	⊙		1st yr.
0535	Tropicbird	1	on H <sub>2</sub> O		+ flying around, other two birds looked like boobies but they were quite far away
		2			
0555	Red-footed Booby	1	⊙		1st yr. joined 0530 bird flying around ship still present at 0645
0606	Red-tail Tropicbird	1	on H <sub>2</sub> O		ad.
0616	Blue-face Booby	1	⊙		Imm.
0632	Booby	1	⊙		large, mostly white, in distance
0637	Manx Shearwater	2	S		
0637	Phaethon	1	S		decent
0654	Kermadec Petrel	1	on H <sub>2</sub> O		dark phase
0700	Blue-face Booby	1	→		adult <del>seen earlier</del>
0708	Tropicbird	1	on H <sub>2</sub> O		decent
0715	Blue-face Booby	1	⊙		from with the ad + from from earlier
0716	"	1	S		adult - different bird from last adult.
0730 To 0750	no obs				Sea Turtles at 0740
0827	Red-bill Tropicbird	2	⊙		adult around for 5 minutes
0845	"	1	←		adult with above two
0941	"	1	on H <sub>2</sub> O		half



Ship  
Direction

SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

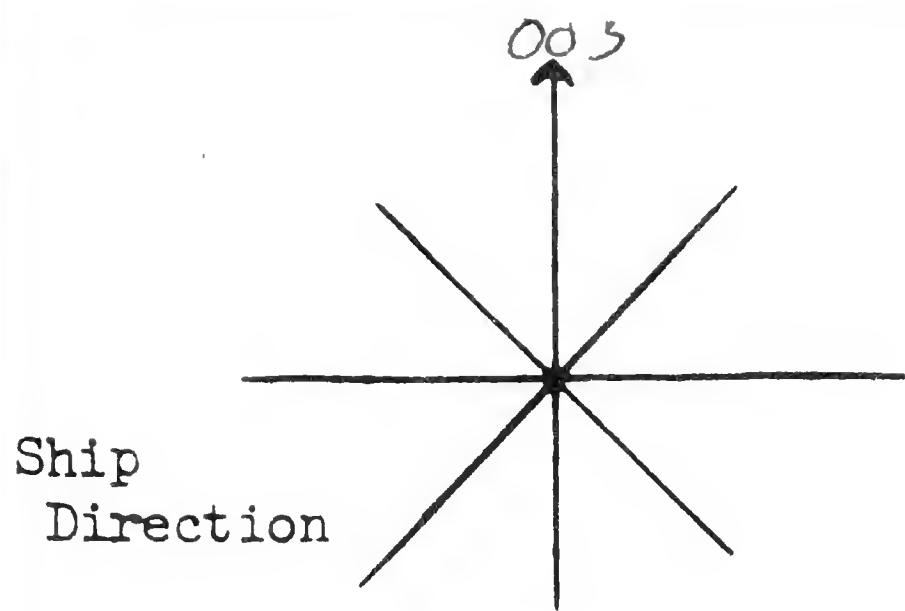
OBSERVERS:

*P. Gould*

Date 26 July  
Pg. # 2 1967

SPECIMEN  
or

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
0958	Red-footed Booby	1	on 420	1 <sup>st</sup> yr.	0956 - Red-bell Tropicbird <sup>adult</sup> on 1120 probably same bird as at 0941 - again at 1010 (same bird?)
1015 To 1350	NO obs.				
1401	Sooty Petrel	1	⊙		
1431	Manx Shearwater	1	W		Traveling fast
1438	Flesh/n Harcourt Petrel	4	⊙		
	Ast. Petrel	5			Look almost twice size of flesh'n wing birds very rapid none like a shearbird - otherwise look like shearwaters with long wings.
1440	Blue-foot Booby	2	.		on floating piece of wood 1 ad, 1 sub. ad.
1442	Red-foot Booby	1			on floating piece of wood, 1 <sup>st</sup> yr.
1442	Manx Shearwater	1	⊙		
					change course to 0030 at 1510
1515	Red-footed Booby	4	5		Immature <del>Red-footed</del> )
1552	Manx Shearwater	2	on 420		flushed in front of ship
1600 To 1710	NO obs.				
1738	Sooty Shearwater	1	on 420		Two immature boobies around ship at 1710, one was a Red-foot. 1 <sup>st</sup> yr. 1710 = slow speed not tow 1725 = same full speed



SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

P. Gould

Date 26 July 1967  
Pg. # 5

SPECIMEN  
or

TIME SPECIES # DIR. BAND NO. REMARKS

1750

Red-footed  
Booby

5-

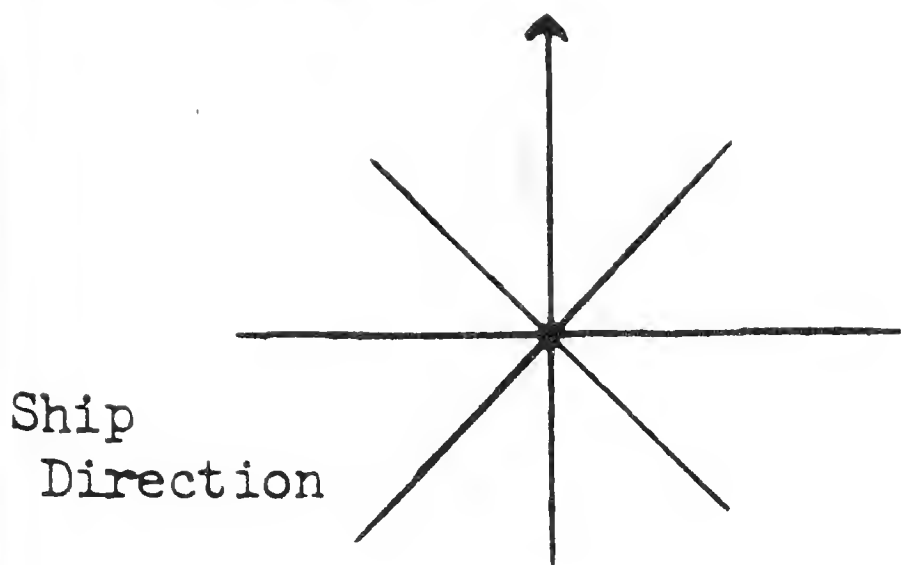
Ⓢ

1st yrs.

~~one collected by Bill Calder~~

Second watch at sunset

~~1801~~ 1801



Ship  
Direction

SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

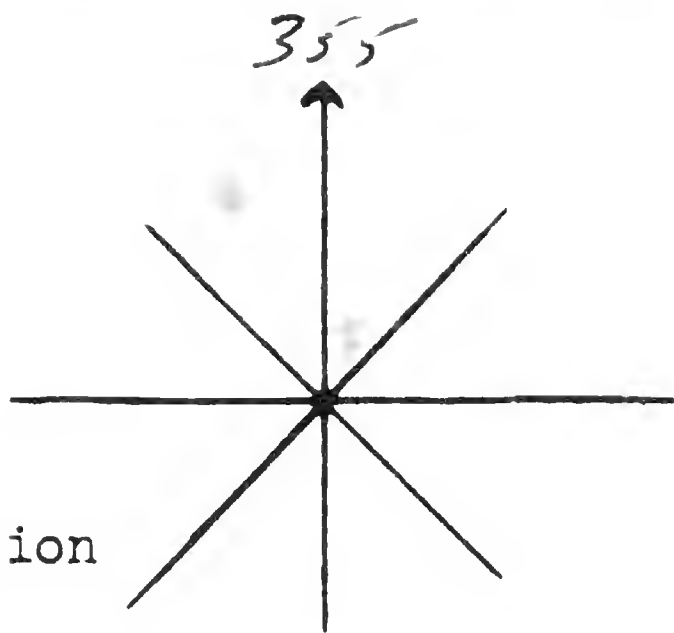
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Date 26 July 1967  
Pg. # 4

SPECIMEN  
or

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
1900	Manx Shearwater	2	⊙		begin obs = 1900 end obs = 1945 played around ship the whole 45 minutes
1930	Tern	3+	⊙		several were white below and are called like on Immature Sooty Tern but I'm not familiar enough with immature Tern calls to be sure.





SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

*J. Gould*

Date *27 July 1967*  
Pg. # *1*

SPECIMEN  
or

*sunrise = 0512*

TIME SPECIES # DIR. BAND NO. REMARKS *begin observations = 0645*

0648 *Pink-footed?* 2 - W *could have been light phase W. tail shown.*  
*Shearwater*

0655 " 1 - W " " " " " "

0708 *Shearwater?* 1 - W *white below grey above - did not see*

0710 *Shearwater* 1 Q *white below*  
*mark?* *a wing stripe, dorsal surface looked*  
*very uniform.*

0730 *no*  
*To*  
0755 *Ob* *change comes to at 0737*

0800 *Blue-face* 10 on  
*Cook's* 109 *8 adults, 2 1<sup>st</sup> yr. = bill yellow or orange*  
*a turtle + many fish under log.*

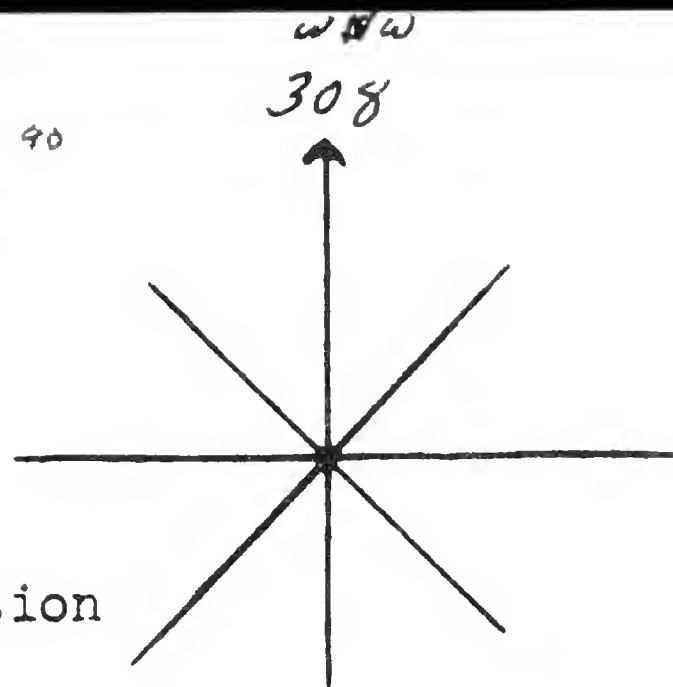
0800 *Magnificent* 1 © *Immature - no wing ~~band~~ on.*  
*Frigatebird*

0829 *Fork/n* 1 © *1026 - Sea Snake*  
*Hornet*

0830 *many* 2 ✓  
*Shearwater*

*Seems watch 0900*

Ship  
Direction



SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

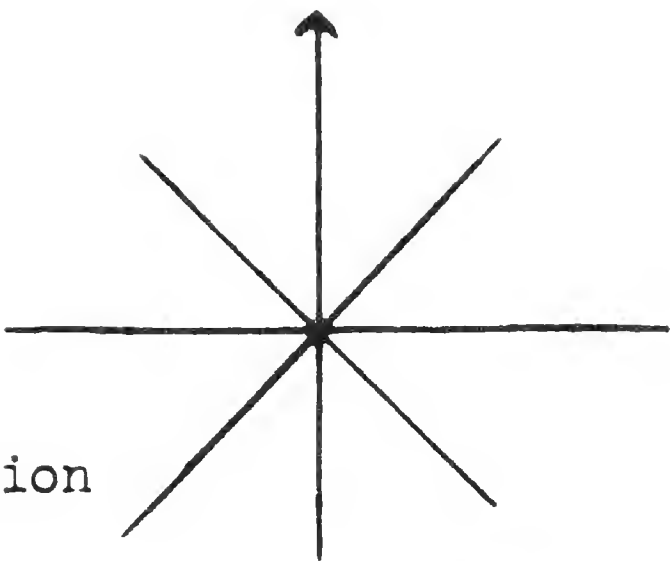
OBSERVERS:

*R. Gould*

Date 29 July 1967  
Pg. # 1

SPECIMEN  
OR

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
					<i>begin observations = 0800</i>
0801	Manx Shear	1	W		
0810	bird	1			
0813	Leach Petrel	1	⊙		
0814	Black Petrel	2	NE		
0818	Shear/Pet	2	W	white below	
0818	Black Petrel	4	W		
0822	Phalarope	7	W		
0823	Shearwater	1	H <sub>20</sub>		
0827	Black Petrel	1			large
0827	Manx Shearwater	1	W		as at 0814
0827	<del>Black Petrel</del>	1	SW		
0830	Terns	4	⊙		in distance
0830	Manx Shearwater	1	SW		
0833	Black Petrel	1	SE		
0834	Manx Shearwater	1			as at 0814
0834	" "	1	SE		
0835	Pomarine Jaeger	1	⊙		light phase
0837	Pilot whale	5+	S		
0848	Manx Shearwater	1	W		
0850	Black Petrel	1	W		as at 0814
0856	Shearwater	1			
0858	Manx Shearwater	2	H <sub>20</sub>		
0900	Phalarope	2			
	Manx Shearwater	1	W		



Ship  
Direction

SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

*P. J. Gould*

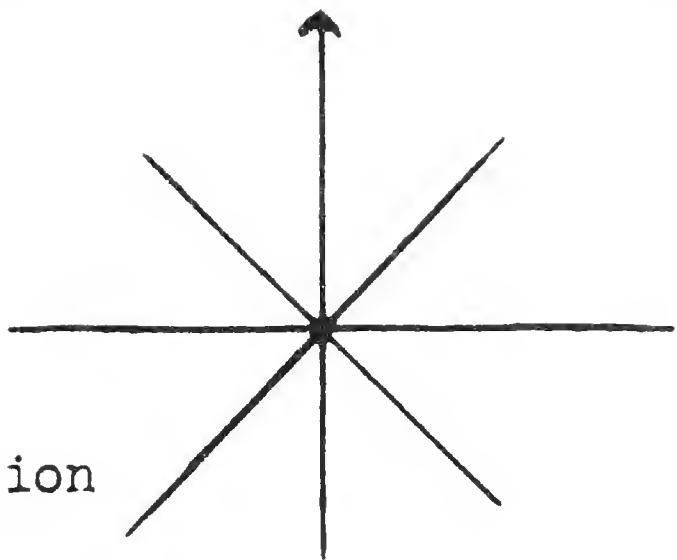
Date 29 July 1967  
Pg. # 2

SPECIMEN  
or

TIME SPECIES # DIR. BAND NO. REMARKS

0903	Black Stom Petrel	1 -	⊙		
0903	Stom Petrel	1 -	⊙		
0905	Phalarope	1 -	→ W		
0910 to 0913	Flock				feeding
	Brown Booby	25 ± 2			
	Black Stom Petrel	1 -			<del>large and dark</del>
	Stom Petrel	2 -			
	Stom Pet	5 -			
	Porpoise	40 +			2 turtles in area
0914	Phalarope	15 ± 2	SW		
0915	Manx Shearwater	2 -	SE		heading for flock
0915	"	1 -	"		" " "
0915	"	1 -	"		" " "
0916	Black Stom Petrel	1 -	⊙		large & dark
0917	Manx Shearwater	4 -	S		heading for flock
	Brown Booby	1 -	S		" " "
0919	Manx Shearwater	1 -	⊙		
0919	Brown Booby	1 -	S		
0921	Manx Shearwater	1 -	SE		
0925	"	1 -	W		
0929	Manx Shearwater	50 ± 10	on H <sub>2</sub> O		
0930	Black Stom Petrel	1 -	⊙	large	
0941	Brown Booby	1 -	⊙		
0941	Frigatebird	1 -	⊙		

Ship  
Direction



SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

*P. Gould*

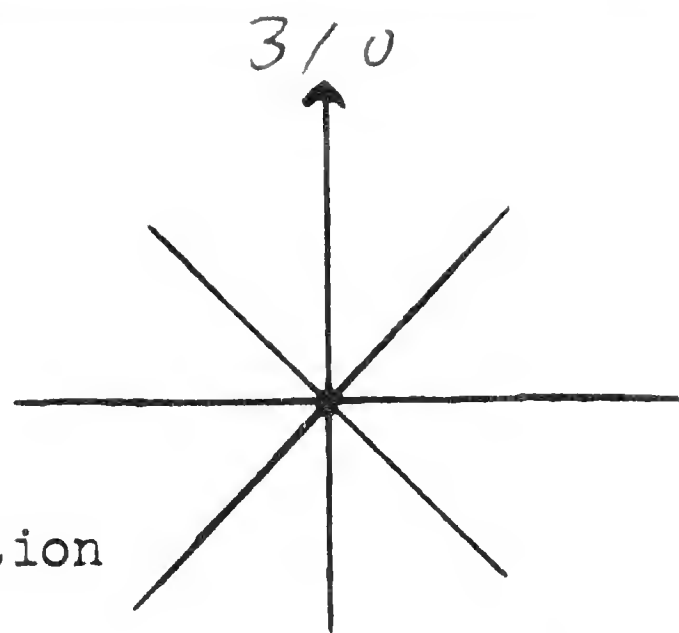
Date 29 July 1967  
Pg. # 3

SPECIMEN  
or

TIME SPECIES # DIR. BAND NO. REMARKS

0945	Manx Shearwater	1	SE		
0949	Black Storm Petrel	1	⊙		
0949	Shear/Pet	1	⊙		
0951	Black Storm Petrel	3	NE		
0954	" "	1	SW		
0955	" "	1	SW		
0956	" "	1	W		
0957	" "	1	⊙		
0958	Manx Shearwater	1	⊙		
1000 To 1600	NO 065				
1647	Manx Shearwater	1	⊙		
1655	Brown Booby	8	N		traveling in a formation (straggled line) low to water
	"	20 ± 5	N		" " " " " "
1657	"	10 ± 2	N		" " " " " "
1657	"	12	N		" " " " " "
1658	"	15 ± 3	N		" " " " " "
1659	"	3	N		" " " " " "
1659	"	5	N		" " " " " "
1700	Black Storm Petrel	1	Follow ship		[ <del>bird</del> north is directly towards Tres Marias Is. ca. 50 miles]
1708	Brown Booby	17	N		traveling in formation (straggled line) low to water
1711	Black Storm Petrel	2	Follow ship		now 3 following





Ship  
Direction

SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

SPECIMEN  
or

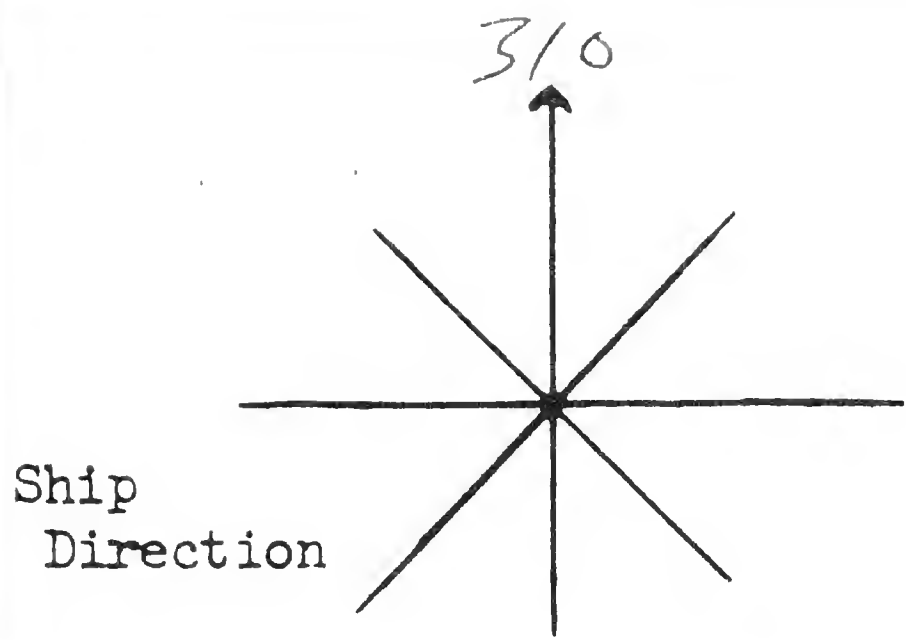
Summa = 0516  
Summa = 1848

OBSERVERS:

Agood

Date 29 July 1967  
Pg. # 7

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
1712	Laysan Petrel	1	70/60		
1815	Masked Shearwater	1	NE		
<p>Severe observation at sunset 1845</p>					



Ship  
Direction

SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

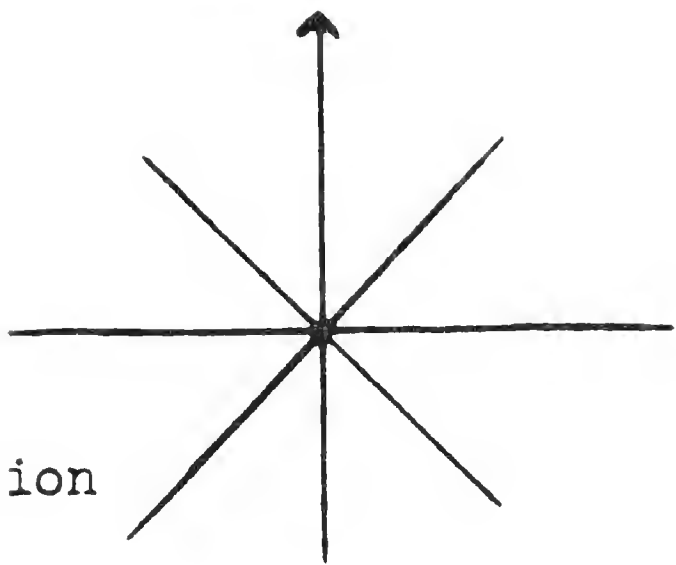
*P. J. Gould*

Date *30 July 1967*  
Pg. # *1*

SPECIMEN  
or

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
					<i>begin = 0805</i>
0807	Storm Petrel	1	⊙		Small & very light flight - mostly ashy or f-eal but not seen well enough
0836	Birds	50 ± 5	E		
0900	Leach Petrel	7 ± 1	⊙		very high flying in formation but too far away to see anything but black dots.
0904	Phalarope	8	NE		
0907	Leach Petrel	1	⊙		flying in straight line formation
0910	no				
to	obs.				
1000					
1006	Storm Petrel	2	⊙		Leach's?
1006	Black Storm Petrel	1	Follow ship		followed until 1015 then left.
1012	Storm Petrel	1	Follow ship		with 1006 Black Petrel
1023	" "	1	⊙		
1030	no				
to	obs.				
1550					
1630	whale	1			
1634	Phalarope	7			1550 - we are now right off Cape San Lucas large group
1635	Black Storm Petrel	1			
1640					
to					
1700					

Ship  
Direction



SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

*Greif*

Date 30 July 1967  
Pg. # 7

SPECIMEN

or

TIME SPECIES # DIR. BAND NO. REMARKS

1700  
to  
1720

Northern  
Phalarope

5000 -  
1500

—

mostly flying south or sitting on the

Cassin  
Puklet

3 -

SW

~~SW~~

Xantus  
Murrelet

1 -

cm  
140

Mont  
Shearwater

1 -

⊙

Leach Petrel

4 -

⊙

Storm Petrel

1 -

⊙

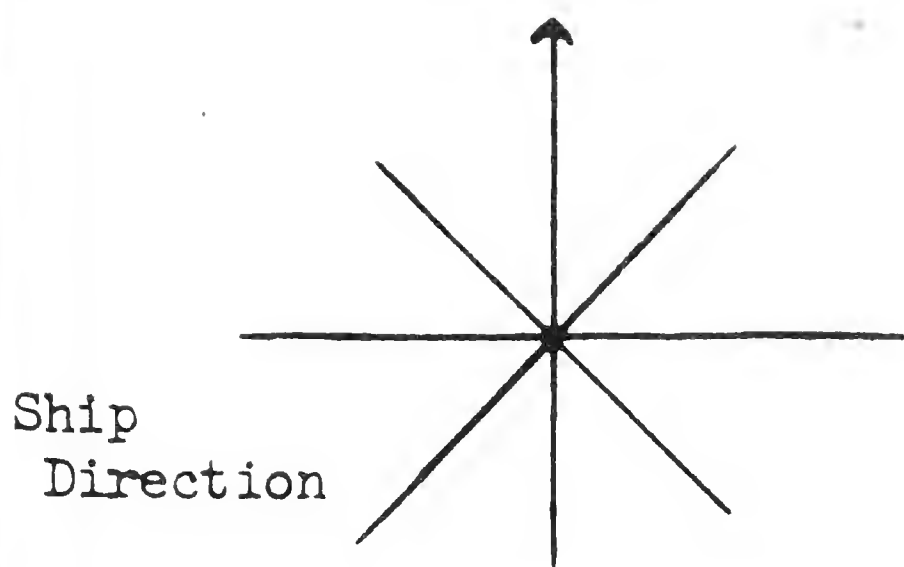
small, butterfly flight may be dark or grey

Ashy Petrel

1 -

well seen, size of Leach, which is another

by 1730 there were only a few  
Phalaropes flying around



SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

*B. Gould*

Date 31 July 1967  
Pg. # 1

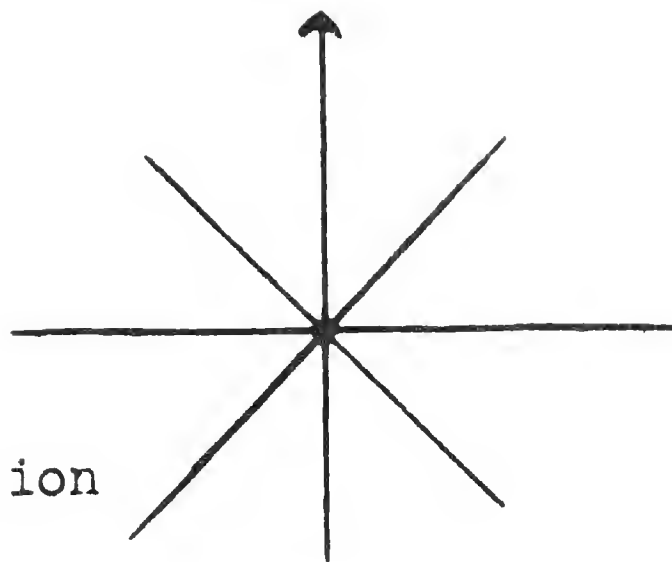
SPECIMEN  
or

TIME SPECIES # DIR. BAND NO. REMARKS

8:30 To 9:30	Brown Pelican Royal Tern Cassin Auklet Xantus Humbird Northern Phalarope Heermann Gull Western Gull Magnificent Frigatebird Murre Shearwater Porpoise Black Storm Petrel Leach Petrel	30±5 45±10 25±5 3 50±10 25±5 5± 4 40±10 50+ 1 5±2			off Magdalena Bay
1645 To 1715	Northern Phalarope Red Phalarope Murre Shearwater Pink-footed Shearwater Leach Petrel Black Petrel Pale-foot Shearwater Cook Petrel Kermadec Petrel? Alcid	10,000±2500 10±5 175±25 100±25 200±25 10±2 1 100±25 1 1			area swarming with birds  Very little indication of whitian rings  in one flock (very tightly packed together) with Leach's  well observed, head concealed with grey back, <u>no</u> black border to underwing
1800	Baird's Dolphin	25+			Delphinus bairdi playing around bow of ship



Ship  
Direction



SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

*Good*

Date 01 August 1967  
Pg. # 1

SPECIMEN  
or

TIME SPECIES # DIR. BAND NO. REMARKS *begin obs. 0840*

0845 flock  
Pink footed  
Shearwater 50 ± 10 on  
Sooty Shear 5 ± 1 420  
Mant Shearwater 3 11

0845 Many Porpoise in area also school of 13 and fish

*Seal on water*

0855 flock  
Sooty Shear 50 ± 5  
Pink-footed  
Shear 15 ± 5  
Mant 5 ± 2

*Scattered Pink-footed on  
Mant Shearwater*

0900 Heermann Gull 1 - fm

0907 Western Gull 1 - ad

0915 Northern Phalarope 3 -

0920 flock  
Pink footed  
Shearwater 35 ± 7 on  
420

0935 Western Gull 3 - imm. 1st yr.

0937 Northern  
Phalarope 50 ± 2

0938 Brown Pelican 1 -

0939 Northern Phalarope 15 -

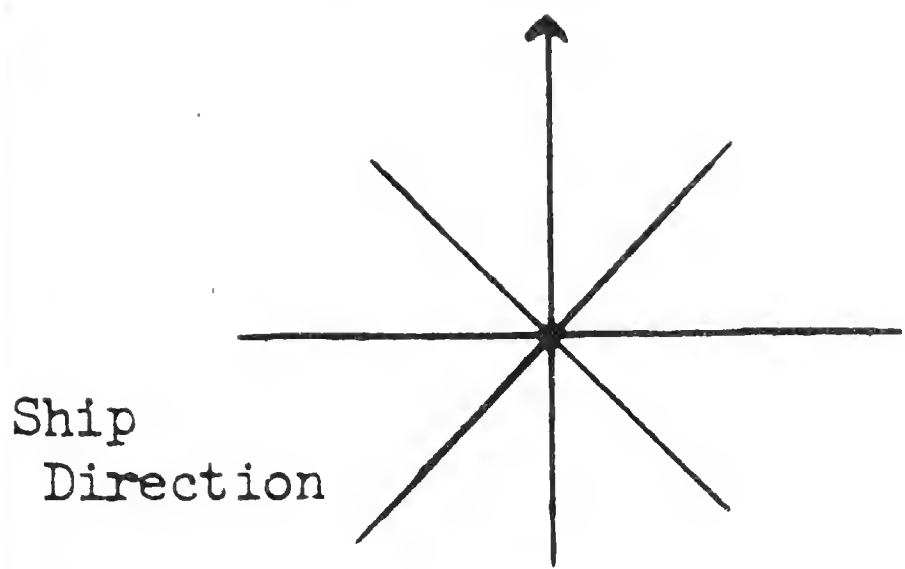
0940 flock  
Mant Shearwater 80 ± 5 -  
Pink footed 100 ± 5 -

0945 Brandt's  
Cormorant 2 -

0955 Brown Pelican 1 -

0958 Western Gull 3 - ad.

1000 Cormorant 8 -



Ship  
Direction

SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Date 01 August 1967  
Pg. # 2

SPECIMEN  
or

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
1002	Bron & Crest	8			Many Cormorants Pelican.
1004	Bron Pelican	8			
1008	Red-bell Tropicbird	1			
1015 To 1700	20 000.				at 1015 we were between marked & unmarked.
1700 To 1730	Ashy Petrel	25 ± 5			scattered about ship

Date 15 June 1967 Ship D.S. JORDAN ( ) Cruise No. 0002

Organization EARTHOPAC #30 Recorder \_\_\_\_\_

Sunrise: Time 0548 Position: Lat. 30° 56' N, Long. 117° 31' W

Sunset: Time 1951 Position: Lat. 28° 19' N, Long. 117° 58' W

Miles travelled from 0000 hours to sunrise = \_\_\_\_\_ *ave sp. 11.2*

Miles travelled from sunrise to sunset = 158

Miles travelled from sunset to 2400 hours = 47

	TIME OF FIX	TYPE OF FIX	LATITUDE	LONGITUDE
1.	1337	RADAR	29° 30'	117° 52'
2.	1500	"	29° 15'	117° 55'
3.	1524	"	29° 10'	117° 55'
4.				
5.				

Hourly Positions:

Time Latitude Longitude Wind Dir. Wind Sp. Wave Dir. Wave Hgt.

0100						
0200						
0300						
0400	31 15	117 27				
0500	31 04	117 29				
0600	30 53	117 31				
0700	30 42	117 33				
0800	30 31	117 36				
0900	30 19	117 38				
1000	30 08	117 40				
1100	29 57	117 43				
1200	29 46	117 45				
1300	29 36	117 48				
1400	29 26	117 51				
1500	29 15	117 55				
1600	29 04	117 55				
1700	28 53	117 55				
1800	28 41	117 57				
1900	28 30	117 58				
2000	28 18	117 58				
2100	28 06	117 59				
2200	28 55	117 59				
2300	28 44	118 00				
2400	27 33	118 01				

*Ships Dir. Spd. 190° 11.2 knots*  
*On 1951 mi E GUADALUPE Island from 1500-1700 hrs*

observation periods for Day

$$0548-0740 = \frac{\text{miles}}{21} \quad \frac{\text{hours}}{1.9}$$

$$0752-1043 = 32 \quad 2.8$$

$$1305-1615 = 36 \quad 3.2$$

$$1650-1900 = 26 \quad 2.2$$

---

$$\text{Total} = \frac{115}{\text{—}} \quad \frac{10.1}{\text{—}}$$



Date 16 June 1967 Ship D. S. Jordan ( ) Cruise No. 0002

Organization Eastropas 453 Recorder P. Gould

0558-0125  
0142-1115  
1315-1805  
1655-1924

Sunrise: Time 0558 Position: Lat. 26°26'N Long. 118°04'W

Sunset: Time 1942 Position: Lat. 23°48'N Long. 118°15'W

Miles travelled from 0000 hours to sunrise = 67 ave Sp 11.3

Miles travelled from sunrise to sunset = 171

Miles travelled from sunset to 2400 hours = 49

	TIME OF FIX	TYPE OF FIX	LATITUDE	LONGITUDE
1.	<u>1253</u>	<u>sun</u>	<u>25°03'N</u>	<u>118°10'W</u>
2.				
3.				
4.				
5.				

#### Hourly Positions:

Time Latitude Longitude Wind Dir. Wind Sp. Wave Dir. Wave Hgt.

0100	<u>27 26</u>	<u>115 02</u>				
0200	<u>27 17</u>	<u>118 02</u>				
0300	<u>27 00</u>	<u>118 03</u>				
0400	<u>26 49</u>	<u>118 03</u>				
0500	<u>26 38</u>	<u>118 04</u>				
0600	<u>26 26</u>	<u>118 04</u>				
0700	<u>26 14</u>	<u>118 05</u>				
0800	<u>26 02</u>	<u>118 05</u>				
0900	<u>25 50</u>	<u>118 06</u>				
1000	<u>25 38</u>	<u>118 06</u>				
1100	<u>25 26</u>	<u>118 08</u>				
1200	<u>25 14</u>	<u>118 09</u>				
1300	<u>25 02</u>	<u>118 11</u>				
1400	<u>24 51</u>	<u>118 10</u>				
1500	<u>24 40</u>	<u>118 12</u>				
1600	<u>24 29</u>	<u>118 12</u>				
1700	<u>24 18</u>	<u>118 13</u>				
1800	<u>24 07</u>	<u>118 13</u>				
1900	<u>23 56</u>	<u>118 14</u>				
2000	<u>23 44</u>	<u>118 15</u>				
2100						
2200						
2300	<u>23 13</u>	<u>118 17</u>				
2400						

observed at various periods.

	<u>miles</u>	<u>Hours</u>
0558 - 0726 =	17	1.5
0741 - 1115 =	44	3.6
1315 - 1615 =	33	3.0
1655 - 1900 =	22	2.1

---

Total = 116 - 10.2

Date 17 June 1967 Ship P.S. Jordan ( ) Cruise No. 0002

Organization Eastropal #30 Recorder P. Gould

Sunrise: Time 0617 Position: Lat. 21°56'N Long. 118°21'W

Sunset: Time 1935 Position: Lat. 20°04'N, Long. 118°30'W

Miles travelled from 0000 hours to sunrise = 71

Miles travelled from sunrise to sunset = 112

Miles travelled from sunset to 2400 hours = 31

	TIME OF FIX	TYPE OF FIX	LATITUDE	LONGITUDE
1.	0245		22°37'	118°18'
2.	0545		22°06'	118°20'
3.	0845		21°34'	118°22'
4.	1145		21°05'	118°23'
5.	1450		20°30'	118°26'

Hourly Positions:

Time Latitude Longitude Wind Dir. Wind Sp. Wave Dir. Wave Hgt.

0100						
0200						
0300						
0400	22°23'	118°19'				
0500	22°12'	118°20'				
0600	22°00'	118°21'				
0700	21°48'	118°22'				
0800	21°41'	118°22'				
0900	21°33'	118°22'				
1000	21°22'	118°23'				
1100	21°11'	118°23'				
1200	21°00'W	118°23'				
1300	20°48'	118°24'				
1400	20°36'	118°25'				
1500	20°25'	118°26'				
1600	20°17'	118°28'				
1700	20°17'	118°28'				
1800	20°17'	118°28'				
1900	20°10'	118°29'				
2000		29				
2100		29				
2200		28				
2300		28				
2400	19°32'	118°28'				

Observations:

	<u>miles</u>	<u>Hours</u>
0617 - 0730	12	1.2
0755 - 1115	34	3.3
1430 - 1630	14	2.0
1805 - 1935	11	1.5
<hr/>		
Total	71	8.0



Date 18 June 1967 Ship ( ) Cruise No.       

Organization                      Recorder                     

Sunrise: Time 0615 Position: Lat. 19° 01' N Long. 118° 25' W

Sunset: Time 1933 Position: Lat. 17° 18' N Long. 118° 30' W

Miles travelled from 0000 hours to sunrise = 32

Miles travelled from sunrise to sunset = 104

Miles travelled from sunset to 2400 hours = 33

	TIME OF FIX	TYPE OF FIX	LATITUDE	LONGITUDE
--	-------------	-------------	----------	-----------

1.

2.

3.

4.

5.

Hourly Positions:

Time	Latitude	Longitude	Wind Dir.	Wind Sp.	Wave Dir.	Wave Hgt.
------	----------	-----------	-----------	----------	-----------	-----------

0100						
0200						
0300						
0400						
0500						
0600	19° 03'	118° 25'				
0700	18 53	118 24				
0800	18° 42'	118° 23'				
0900	18 31	118 22				
1000	18 20	118 21				
1100	18° 12'	118° 20'				
1200	18° 10'	118° 20'				
1300	18° 12'	118° 20'				
1400	18° 00'	118° 20'				
1500	17 48	118 27				
1600	17° 38	118° 30				
1700	17° 38	118° 30				
1800	17 34	118 30				
1900	17° 24	118 30				
2000	17° 13	118° 30				
2100						
2200						
2300						
2400	16° 45'	118° 32				

observed in stream

	miles	hours
0615 - 0750	18	1.6
0800 - 1032	26	2.5
1345 - 1603	30	2.3
1726 - 1933	19	2.1

---

Total

93

8.5

Date 19 Jan 1967 Ship ( ) Cruise No.       

Organization                      Recorder                     

Sunrise: Time 0630 Position: Lat. 15°57'N Long. 118°57'W

Sunset: Time 1924 Position: Lat. 14°17'N Long. 118°53'W

Miles travelled from 0000 hours to sunrise = 48

Miles travelled from sunrise to sunset = 99

Miles travelled from sunset to 2400 hours = 35

	TIME OF FIX	TYPE OF FIX	LATITUDE	LONGITUDE
--	-------------	-------------	----------	-----------

1.

2.

3.

4.

5.

Hourly Positions:

Time	Latitude	Longitude	Wind Dir.	Wind Sp.	Wave Dir.	Wave Hgt.
------	----------	-----------	-----------	----------	-----------	-----------

0100						
0200						
0300						
0400	16° 05	118° 37				
0500	16° 05	118 37				
0600	16° 05	118 37				
0700	15 52	118 35				
0800	15° 40	118 34				
0900	15 29	118 33				
1000	15 18	118 32				
1100	15° 13	118 31				
1200	15° 13	118 31				
1300	15° 09	118 31				
1400	15 00	118 32				
1500	14 49	118 32				
1600	14 38	118 32				
1700	14 38	118 32				
1800	14 33	118 32				
1900	14 22	118 33				
2000	14° 11	118 33				
2100	14° 00	118 33				
2200	13 49	118 34				
2300	13 43	118 34				
2400	13 43	118 34				

observed, present

	<u>miles</u>	<u>hours</u>
0630 - 0735	12	1.1
0750 - 1034	30	2.8
1325 - 1404	27	2.6
1705 - 1924	20	2.3
	<hr/>	
	89	8.8



Date 20 June 1967 Ship ( ) Cruise No.       

Organization                      Recorder                     

Sunrise: Time 0628 Position: Lat. 12°58'N, Long. 118°35'W

Sunset: Time 1918 Position: Lat. 11°29'N, Long. 118°34'W

Miles travelled from 0000 hours to sunrise = 44

Miles travelled from sunrise to sunset = 90

Miles travelled from sunset to 2400 hours = 37

TIME OF FIX      TYPE OF FIX      LATITUDE      LONGITUDE

1.

2.

3.

4.

5.

Hourly Positions:

Time      Latitude      Longitude      Wind Dir.      Wind Sp.      Wave Dir.      Wave Hgt.

0100						
0200						
0300						
0400	13 04	118 35				
0500	13 04	118 35				
0600	13 04	118 35				
0700	12 52	118 36				
0800	12 41	118 36				
0900	12 30	118 36				
1000	12 19	118 35				
1100	12 12	118 34				
1200	12 12	118 34				
1300	12 09	118 34				
1400	11 59	118 34				
1500	11 48	118 34				
1600	11 37	118 34				
1700	11 37	118 34				
1800	11 37	118 34				
1900	11 32	118 34				
2000	11 20	118 34				
2100	11 09	118 34				
2200	10 58	118 34				
2300	10 52	118 34				
2400	10 52	118 34				

observation periods

	miles	hours
0628 - 0745 =	14	1.3
0753 - 1030 =	29	2.6
1325 - 1600 =	28	2.6
1815 - 1918 =	9	1.0

---

Total = 80 7.5

Date 21 June 1967 Ship ( ) Cruise No.       

Organization                      Recorder                     

Sunrise: Time 0654 Position: Lat. 10°11'N, Long. 118°51'W

Sunset: Time 1916 Position: Lat. 09°06'N, Long. 118°45'W

Miles travelled from 0000 hours to sunrise = 44

Miles travelled from sunrise to sunset = 73

Miles travelled from sunset to 2400 hours = 39

TIME OF FIX      TYPE OF FIX      LATITUDE      LONGITUDE

1.

2.

3.

4.

5.

Hourly Positions:

Time      Latitude      Longitude      Wind Dir.      Wind Sp.      Wave Dir.      Wave Hgt.

0100						
0200						
0300						
0400	10 19	118 48				
0500	10 19	118 48				
0600	10 17	118 49				
0700	10 08	118 53				
0800	09 57	118 57				
0900	09 47	119 04				
1000	09 37	119 03				
1100	09 37	119 03				
1200	09 37	119 03				
1300	09 37	119 03				
1400	09 35	119 02				
1500	09 30	119 01				
1600	09 20	118 54				
1700	09 20	118 54				
1800	09 19	118 53				
1900	09 09	118 47				
2000	08 58	118 41				
2100	08 46	118 35				
2200	08 35	118 29				
2300	08 32	118 26				
2400	08 32	118 26				

observation period

		miles	hours
0634 -	0730 =	10	0.9
0750 -	1000 =	24	2.2
1425 -	1600 =	18	1.6
1730 -	1916 =	16	1.8
		<hr/>	
		68	6.5



Date 22 June 1967 Ship U.S. JORDAN ( ) Cruise No. \_\_\_\_\_

Organization \_\_\_\_\_ Recorder \_\_\_\_\_

Sunrise: Time 0638 Position: Lat. 07°42'N, Long. 118°24'W

Sunset: Time 1912 Position: Lat. 06°03'N, Long. 118°58'W

Miles travelled from 0000 hours to sunrise = 48

Miles travelled from sunrise to sunset = 107

Miles travelled from sunset to 2400 hours = 29

TIME OF FIX	TYPE OF FIX	LATITUDE	LONGITUDE
-------------	-------------	----------	-----------

1.

2.

3.

4.

5.

Hourly Positions:

Time	Latitude	Longitude	Wind Dir.	Wind Sp.	Wave Dir.	Wave Hgt.
------	----------	-----------	-----------	----------	-----------	-----------

0100						
0200						
0300						
0400	07° 50'	118 24'				
0500	07° 50'	118 24'				
0600	07° 48'	118 24'				
0700	07 38	118 26				
0800	07° 27'	118 28				
0900	07° 16	118 31'				
1000	07° 05	118 34				
1100	07° 02	118° 37'				
1200	07° 02	118° 38				
1300	06° 57	118° 39				
1400	06° 46	118° 42				
1500	06° 38	118° 46				
1600	06° 27	118° 50				
1700	06° 20	118° 53				
1800	06° 10	118° 58				
1900	06° 03	118° 58				
2000	06° 02	118° 58				
2100	05° 51	118 52				
2200	05° 40	118 49				
2300	05° 37	118° 46				
2400	05° 37	118° 46				

# Observation Period

	<u>miles</u>	<u>hours</u>
0638 - 1031 =	44	3.9
1330 - 1600 =	27	2.5
1700 - 1835 =	18	1.7
	<u>89</u>	<u>8.1</u>

Date 23 June 1967 Ship D.S. Jordan ( ) Cruise No. \_\_\_\_\_

Organization \_\_\_\_\_ Recorder \_\_\_\_\_

Sunrise: Time 0643 Position: Lat. 04°56'N Long. 118°30'W

Sunset: Time 1910 Position: Lat. 03°40'N Long. 118°30'W

Miles travelled from 0000 hours to sunrise = 44

Miles travelled from sunrise to sunset = 75

Miles travelled from sunset to 2400 hours = 34

TIME OF FIX TYPE OF FIX LATITUDE LONGITUDE

1.

2.

3.

4.

5.

Hourly Positions:

Time Latitude Longitude Wind Dir. Wind Sp. Wave Dir. Wave Hgt.

0100	05° 52'	118° 44'				
0200						
0300						
0400	05° 04'	118° 30'				
0500	05° 04'	118° 30'				
0600	05° 04'	118° 30'				
0700	04° 53'	118° 30'				
0800	04° 42'	118° 29'				
0900	04° 32'	118° 29'				
1000	04° 22'	118° 28'				
1100	04° 19'	118° 28'				
1200	04° 18'	118° 28'				
1300	04° 15'	118° 28'				
1400	04° 04'	118° 29'				
1500	03° 58'	118° 30'				
1600	03° 47'	118° 30'				
1700	03° 47'	118° 30'				
1800	03° 47'	118° 30'				
1900	03° 42'	118° 30'				
2000	03° 31'	118° 30'				
2100	03° 24'	118° 30'				
2200	03° 13'	118° 31'				
2300	03° 06'	118° 31'				
2400	03° 06'	118° 31'				

# observation Periods

	mile	hour
0643 - 0745 =	10	1.0
0815 - 1030 =	24	2.3
1305 - 1405 =	10	1.0
1430 - 1600 =	15	1.5
1755 - 1910 =	7	1.3
	<hr/> 66	<hr/> 7.1



Date 24 June 1967 Ship ( ) Cruise No.       

Organization                      Recorder                     

Sunrise: Time 0648 Position: Lat. 02° 27' N, Long. 118° 34' W

Sunset: Time 1902 Position: Lat. 01° 12' N, Long. 118° 33' W

Miles travelled from 0000 hours to sunrise = 39

Miles travelled from sunrise to sunset = 76

Miles travelled from sunset to 2400 hours = 34

	TIME OF FIX	TYPE OF FIX	LATITUDE	LONGITUDE
--	-------------	-------------	----------	-----------

1.

2.

3.

4.

5.

Hourly Positions:

Time	Latitude	Longitude	Wind Dir.	Wind Sp.	Wave Dir.	Wave Hgt.
------	----------	-----------	-----------	----------	-----------	-----------

0100						
0200						
0300						
0400	02° 36'	118 33				
0500	02° 36'	118 33				
0600	02 33	118 33				
0700	02 22	118 33				
0800	02° 11'	118 34				
0900	02° 05'	118 34				
1000	01° 56'	118 34				
1100	01° 53'	118 34				
1200	01° 53'	118° 34'				
1300	01° 50'	118° 34'				
1400	01° 39'	118° 34'				
1500	01° 35'	118° 34'				
1600	01° 24'	118° 34'				
1700	01° 24'	118° 34'				
1800	01° 22'	118° 34'				
1900	01° 12'	118° 33'				
2000	01° 01'	118° 32'				
2100	00° 50'	118° 31'				
2200	00° 41'	118° 30'				
2300	00° 39'	118° 29'				
2400	00° 39'	118° 29'				

Observation 7 mi

miles - hrs.

0648 - 0730 =	10	-	0:42
0745 - 0800 =	04	-	0:15
0830 - 1030 =	18	-	2:00
1245 - 1410 =	10	-	1:25
1430 - 1600 =	15	-	1:30
1742 - 1902 =	13	-	1:20

---

70 mi - 7:2 hrs.

Date 25 June 1967 Ship ( ) Cruise No.       

Organization                      Recorder                     

Sunrise: Time 0653 Position: Lat. 00° 01' S, Long. 118° 26' W

Sunset: Time 1856 Position: Lat. 01° 07' S, Long. 118° 20' W

Miles travelled from 0000 hours to sunrise = 40

Miles travelled from sunrise to sunset = 64

Miles travelled from sunset to 2400 hours = 33

TIME OF FIX      TYPE OF FIX      LATITUDE      LONGITUDE

1.

2.

3.

4.

5.

Hourly Positions:

Time      Latitude      Longitude      Wind Dir.      Wind Sp.      Wave Dir.      Wave Hgt.

		W				
0100						
0200						
0300						
0400	00° 09' N	118° 27'				
0500	00° 09' N	118° 27'				
0600	00° 09' N	118° 27'				
0700	00° 01' S	118° 26'				
0800	00° 12' S	118° 26'				
0900	00° 16'	118° 25'				
1000	00° 26'	118° 24'				
1100	00° 29' S	118° 22'				
1200	00° 29' S	118° 22'				
1300	00° 30' S	118° 22'				
1400	00° 37' S	118° 22'				
1500	00° 42' S	118° 21'				
1600	00° 53' S	118° 21'				
1700	00° 53' S	118° 21'				
1800	00° 52' S	118° 20'				
1900	01° 02' S	118° 20'				
2000	01° 17' S	118° 20'				
2100	01° 22' S	118° 22'				
2200	01° 33' S	118° 24'				
2300	01° 40' S	118° 25'				
2400	01° 40' S	118° 25'				

	<u>miles</u>	<u>hrs</u>
0653 - 0748 =	07	0:55
0831 - 1030 =	18	1:59
1230 - 1400 =	09	1:30
1500 - 1600 =	10	1:00
1735 - 1856 =	13	1:21
	<hr/>	<hr/>
	57 mi	4:16.5
		6.8 hrs.



Date 26 Jun 1967 Ship ( ) Cruise No.       

Organization                      Recorder                     

Sunrise: Time 0658 Position: Lat. 02° 27' S, Long. 118° 35' W

Sunset: Time 1835 Position: Lat. 02° 59' S, Long. 117° 52' W

Miles travelled from 0000 hours to sunrise = 49

Miles travelled from sunrise to sunset = 75

Miles travelled from sunset to 2400 hours = 43

TIME OF FIX      TYPE OF FIX      LATITUDE      LONGITUDE

1.

2.

3.

4.

5.

Hourly Positions:

Time      Latitude      Longitude      Wind Dir.      Wind Sp.      Wave Dir.      Wave Hgt.

0100						
0200						
0300						
0400	02° 15' S	118° 32' W				
0500	02° 15' S	118° 32' W				
0600	02° 17' S	118° 37' W				
0700	02° 27' S	118° 35' W				
0800	02° 38' S	118° 32' W				
0900	02° 43' S	118° 38' W				
1000	02° 51' S	118° 39' W				
1100	02° 59' S	118° 40' W				
1200	02° 58' S	118° 40' W				
1300	02° 58' S	118° 36' W				
1400	02° 59' S	118° 28' W				
1500	02° 59' S	118° 20' W				
1600	02° 59' S	118° 12' W				
1700	02° 59' S	118° 04' W				
1800	02° 59' S	117° 56' W				
1900	02° 59' S	117° 48' W				
2000						
2100						
2200						
2300						
2400	02° 59' S	117° 09' W				

mi - hr.

0658 - 0750 = 07 - 0:52

0823 - 1030 = 22 - 2:07

1330 - 1550 = 19 - 2:20

48 - 4:79

48 miles - 5.3 hrs.

Date 27 June 1967 Ship ( ) Cruise No.       

Organization                      Recorder                     

Sunrise: Time 0650 Position: Lat. 02°59'S, Long. 116°04'W

Sunset: Time 1843 Position: Lat. 02°59'S, Long. 114°15'W

Miles travelled from 0000 hours to sunrise = 63

Miles travelled from sunrise to sunset = 108

Miles travelled from sunset to 2400 hours = 44

TIME OF FIX      TYPE OF FIX      LATITUDE      LONGITUDE

1.

2.

3.

4.

5.

Hourly Positions:

Time      Latitude      Longitude      Wind Dir.      Wind Sp.      Wave Dir.      Wave Hgt.

0100						
0200						
0300						
0400						
0500						
0600	02°59'S	116°11'W				
0700	02°59'S	116°02'W				
0800	02°59'S	115°53'W				
0900	02°59'S	115°44'W				
1000	03°00'S	115°33'W				
1100	03°00'S	115°22'W				
1200	03°00'S	115°11'W				
1300	03°00'S	115°04'W				
1400	03°00'S	114°57'W				
1500	03°00'S	114°50'W				
1600	03°00'S	114°43'W				
1700	02°59'S	114°30'W				
1800	02°58'S	114°23'W				
1900	02°58'S	114°13'W				
2000						
2100						
2200						
2300						
2400	02°58'S	113°31'W				

mi - hr.

0650 - 0740 = 07 - 0:50

0810 - 1110 = 30 - 3:00

1345 - 1610 = 27 - 2:25

1725 - 1843 = 09 - 1:18

73 mi

6 93

7.6 hrs.



Date 28 June 1967 Ship ( ) Cruise No.       

Organization                      Recorder                     

Sunrise: Time 0633 Position: Lat. 02° 56'S, Long. 112° 32'W

Sunset: Time 1830 Position: Lat. 02° 24'S, Long. 111° 42'W

Miles travelled from 0000 hours to sunrise = 56

Miles travelled from sunrise to sunset = 71

Miles travelled from sunset to 2400 hours = 42

TIME OF FIX      TYPE OF FIX      LATITUDE      LONGITUDE

1.

2.

3.

4.

5.

Hourly Positions:

Time      Latitude      Longitude      Wind Dir.      Wind Sp.      Wave Dir.      Wave Hgt.

0100						
0200						
0300						
0400	02° 59'S	112° 52'W				
0500	02° 58'S	112° 49'				
0600	02° 57'S	112° 36'				
0700	02° 56'S	112° 28'				
0800	02° 56'S	112° 20'				
0900	02° 55'S	112° 11'				
1000	02° 54'S	112° 03'				
1100	02° 54'S	111° 58'W				
1200	02° 54'S	111° 56'W				
1300	02° 54'S	111° 56'W				
1400	02° 54'S	111° 54'W				
1500	02° 53'S	111° 50'W				
1600	02° 52'S	111° 45'W				
1700	02° 52'S	111° 45'W				
1800	02° 29'	111° 40'W				
1900	02° 19'	111° 40'W				
2000						
2100						
2200						
2300	01° 44'S	111° 30'W				
2400	01° 44'S	111° 30'W				

---

$$0633 - 0746 = 10 \quad - \quad 1:13$$

$$0758 - 1035 = 20 \quad - \quad 2:37$$

$$1430 - 1600 = 18 \quad - \quad 1:30$$

$$1725 - 1830 = 11 \quad - \quad 1:05$$

---

59

---

5:85

6:4 hr

Date 29 JUNE 1967 Ship ( ) Cruise No.       

Organization                      Recorder                     

Sunrise: Time 0627 Position: Lat. 01° 17'S, Long. 111° 32'W

Sunset: Time 1833 Position: Lat. 00° 03'S, Long. 111° 22'W

Miles travelled from 0000 hours to sunrise = 26

Miles travelled from sunrise to sunset = 75

Miles travelled from sunset to 2400 hours = 46

	TIME OF FIX	TYPE OF FIX	LATITUDE	LONGITUDE
--	-------------	-------------	----------	-----------

1.

2.

3.

4.

5.

Hourly Positions:

Time	Latitude	Longitude	Wind Dir.	Wind Sp.	Wave Dir.	Wave Hgt.
------	----------	-----------	-----------	----------	-----------	-----------

0100						
0200						
0300						
0400	01° 22'S	111° 32'W				
0500	01° 22'S	111° 32'W				
0600	01° 22'S	111° 32'W				
0700	01° 12'S	111° 31'W				
0800	01° 01'S	111° 30'W				
0900	00° 51'S	111° 30'W				
1000	00° 40'S	111° 30'W				
1100	00° 35'S	111° 29'W				
1200	00° 35'S	111° 29'W				
1300	00° 35'S	111° 29'W				
1400	00° 30'S	111° 28'W				
1500	00° 20'S	111° 26'W				
1600	00° 10'S	111° 23'W				
1700	00° 10'S	111° 23'W				
1800	00° 08'S	111° 23'W				
1900	00° 02'N	111° 22'W				
2000						
2100						
2200						
2300	00° 48'N	111° 25'W				
2400	00° 48'N	111° 25'W				

0627 - 0750

0820 - 1030

1420 - 1600

1730 - 1833

12 - 1:23

25 - 2:10

20 - 1:35

08 - 1:03

---

65<sup>1</sup><sub>miles</sub> 5:71 = 6.2 hrs.



Date 30 June, 1967 Ship ( ) Cruise No.       

Organization                      Recorder                     

Sunrise: Time 0626 Position: Lat. 01°22'N, Long. 111°27'W

Sunset: Time 1838 Position: Lat. 02°45'N, Long. 111°42'W

Miles travelled from 0000 hours to sunrise = 39

Miles travelled from sunrise to sunset = 86

Miles travelled from sunset to 2400 hours = 43

	TIME OF FIX	TYPE OF FIX	LATITUDE	LONGITUDE
--	-------------	-------------	----------	-----------

1.

2.

3.

4.

5.

Hourly Positions:

Time	Latitude	Longitude	Wind Dir.	Wind Sp.	Wave Dir.	Wave Hgt.
------	----------	-----------	-----------	----------	-----------	-----------

0100						
0200						
0300						
0400	01°16'N	111°26'W				
0500	01°16'N	111°26'W				
0600	01°16'N	111°26'W				
0700	01°27'N	111°27'W				
0800	01°39'N	111°29'W				
0900	01°50'N	111°30'W				
1000	01°57'N	111°31'W				
1100	02°06'N	111°31'W				
1200	02°06'N	111°31'W				
1300	02°06'N	111°31'W				
1400	02°12'N	111°34'W				
1500	02°27'N	111°37'W				
1600	02°37'N	111°41'W				
1700	02°37'N	111°41'W				
1800	02°39'N	111°41'W				
1900	02°51'N	111°42'W				
2000						
2100						
2200						
2300	03°29'N	111°40'W				
2400	03°29'N	111°40'W				

---

0626 - 0750 17 - 1:24

0820 - 1028 28 - 2:08

1400 - 1600 27 - 2:00

1715 - 1838 08 - 1:23

---

80

---

6:55

---

80 miles 6.9 hrs

Date 01 July 1967 Ship ( ) Cruise No.       

Organization                      Recorder                     

Sunrise: Time 0623 Position: Lat. 04° 08' N Long. 111° 41' W

Sunset: Time 1842 Position: Lat. 05° 37' N Long. 111° 39' W

Miles travelled from 0000 hours to sunrise = 39

Miles travelled from sunrise to sunset = 88

Miles travelled from sunset to 2400 hours = 46

	TIME OF FIX	TYPE OF FIX	LATITUDE	LONGITUDE
--	-------------	-------------	----------	-----------

1.

2.

3.

4.

5.

Hourly Positions:

Time	Latitude	Longitude	Wind Dir.	Wind Sp.	Wave Dir.	Wave Hgt.
------	----------	-----------	-----------	----------	-----------	-----------

0100						
0200						
0300						
0400	03° 58' N	111° 40' W				
0500	03° 58' N	111° 40' W				
0600	04° 05' N	111° 41' W				
0700	04° 16' N	111° 41' W				
0800	04° 27' N	111° 41' W				
0900	04° 36' N	111° 41' W				
1000	04° 47' N	111° 41' W				
1100	04° 52' N	111° 41' W				
1200	04° 52' N	111° 41' W				
1300	04° 55' N	111° 40' W				
1400	05° 06' N	111° 39' W				
1500	05° 13' N	111° 39' W				
1600	05° 24' N	111° 39' W				
1700	05° 24' N	111° 39' W				
1800	05° 29' N	111° 39' W				
1900	05° 40' N	111° 39' W				
2000	05° 52' N	111° 37' W				
2100	06° 04' N	111° 35' W				
2200	06° 16' N	111° 33' W				
2300	06° 22' N	111° 32' W				
2400	06° 22' N	111° 32' W				

---

0623 - 0750	16	-	1: 27
0815 - 1030	36		2: 15
1340 - 1414	08		0: 34
1435 - 1600	17		1: 25
1745 - <del>1815</del>	13		0: 57
1842	<hr/>		
	90 miles		

4: 15.8	= 6.6 hrs.
120	
<hr/> 38	



Date 02 July 1967 Ship ( ) Cruise No.       

Organization                      Recorder                     

Sunrise: Time 0614 Position: Lat. 07° 07' N, Long. 111° 24' W

Sunset: Time 1848 Position: Lat. 08° 36' N, Long. 111° 19' W

Miles travelled from 0000 hours to sunrise = 46

Miles travelled from sunrise to sunset = 89

Miles travelled from sunset to 2400 hours = 40

TIME OF FIX      TYPE OF FIX      LATITUDE      LONGITUDE

1.

2.

3.

4.

5.

Hourly Positions:

Time      Latitude      Longitude      Wind Dir.      Wind Sp.      Wave Dir.      Wave Hgt.

0100						
0200						
0300						
0400	07° 01' N	111° 25' W				
0500	07° 01' N	111° 25' W				
0600	07° 04' N	111° 25' W				
0700	07° 15' N	111° 23' W				
0800	07° 26' N	111° 20' W				
0900	07° 38' N	111° 19' W				
1000	07° 50' N	111° 18' W				
1100	07° 56' N	111° 17' W				
1200	07° 56' N	111° 17' W				
1300	07° 56' N	111° 17' W				
1400	08° 01' N	111° 17' W				
1500	08° 15' N	111° 17' W				
1600	08° 25' N	111° 19' W				
1700	08° 25' N	111° 18' W				
1800	08° 25' N	111° 19' W				
1900	08° 29' N	111° 18' W				
2000	08° 30' N	111° 20' W				
2100	08° 30' N	111° 20' W				
2200	08° 30' N	111° 20' W				
2300	08° 35' N	111° 21' W				
2400	08° 35' N	111° 20' W				

0614 - 0730	14	- 1: 16
0745 - 1030	33	2: 45
1407 - 1600	21	1: 53
1745 - 1848	12	1: 03
	<hr/>	
	80 miles	<hr/> 5: 117 = 8.7.0 hrs.

Date 3 July 1967 Ship ( ) Cruise No.       

Organization                      Recorder                     

Sunrise: Time 0607 Position: Lat. 09°52'N, Long. 111°20'W

Sunset: Time 1853 Position: Lat. 11°30'N, Long. 111°25'W

Miles travelled from 0000 hours to sunrise = 36

Miles travelled from sunrise to sunset = 98

Miles travelled from sunset to 2400 hours = ~~8~~ 41

	TIME OF FIX	TYPE OF FIX	LATITUDE	LONGITUDE
--	-------------	-------------	----------	-----------

1.

2.

3.

4.

5.

Hourly Positions:

Time	Latitude	Longitude	Wind Dir.	Wind Sp.	Wave Dir.	Wave Hgt.
------	----------	-----------	-----------	----------	-----------	-----------

0100						
0200						
0300						
0400	09° 43' N	111° 20' W				
0500	09° 43' N	111° 20' W				
0600	09° 50' N	111° 20' W				
0700	10° 00' N	111° 21' W				
0800	10° 10' N	111° 21' W				
0900	10° 21' N	111° 21' W				
1000	10° 32' N	111° 21' W				
1100	10° 38' N	111° 21' W				
1200	10° 38' N	111° 21' W				
1300	10° 43' N	111° 22' W				
1400	10° 53' N	111° 22' W				
1500	11° 03' N	111° 22' W				
1600	11° 15' N	111° 22' W				
1700	11° 15' N	111° 22' W				
1800	11° 18' N	111° 23' W				
1900	11° 31' N	111° 26' W				
2000	11° 43' N	111° 28' W				
2100						
2200						
2300	12° 10' N	111° 30' W				
2400	12° 10' N	111° 30' W				

0609 - 0730	12	1:21
0740 - 1030	32	2:50
1440 - 1600	14	1:20
1720 - 1853	16	1:33
	<u>74 miles</u>	<u>5:124</u> = 7.1 hrs.



Date 04 July 1967 Ship ( ) Cruise No.       

Organization                      Recorder                     

Sunrise: Time 0605 Position: Lat. 12°36'N, Long. 111°05'W

Sunset: Time 1852 Position: Lat. 13°38'N, Long. 109°56'W

Miles travelled from 0000 hours to sunrise = 34

Miles travelled from sunrise to sunset = 91

Miles travelled from sunset to 2400 hours = 39

	TIME OF FIX	TYPE OF FIX	LATITUDE	LONGITUDE
--	-------------	-------------	----------	-----------

1.

2.

3.

4.

5.

Hourly Positions:

Time	Latitude	Longitude	Wind Dir.	Wind Sp.	Wave Dir.	Wave Hgt.
------	----------	-----------	-----------	----------	-----------	-----------

0100	12°13'N	111°29'W				
0200						
0300						
0400	12°33'N	111°07'W				
0500	12°33'N	111°07'W				
0600	12°36'N	111°05'W				
0700	12°44'N	110°58'W				
0800	12°52'N	110°51'W				
0900	13°02'N	110°43'W				
1000	13°12'N	110°35'W				
1100	13°15'N	110°32'W				
1200	13°15'N	110°32'W				
1300	13°15'N	110°32'W				
1400	13°19'N	110°22'W				
1500	13°26'N	110°12'W				
1600	13°30'N	110°05'W				
1700	13°30'N	110°05'W				
1800	13°32'N	110°03'W				
1900	13°34'N	109°55'W				
2000						
2100						
2200						
2300	14°06'N	109°26'W				
2400	14°06'N	109°26'W				

---

0605 - 0734 =	15	-	1:29
0745 - 1030 =	32	-	2:45
1415 - 1600 =	23	-	1:45
1740 - 1852 =	14	-	1:12

---

44  
mils

---

5:131 = 7.2 hrs.

Date 05 July, 1967 Ship ( ) Cruise No.       

Organization                      Recorder                     

Sunrise: Time 0549 Position: Lat. 14°18'N, Long. 109°14'W

Sunset: Time 1847 Position: Lat. 15°27'N, Long. 108°07'W

Miles travelled from 0000 hours to sunrise = 17

Miles travelled from sunrise to sunset = 94

Miles travelled from sunset to 2400 hours = 41

TIME OF FIX      TYPE OF FIX      LATITUDE      LONGITUDE

1.

2.

3.

4.

5.

Hourly Positions:

Time      Latitude      Longitude      Wind Dir.      Wind Sp.      Wave Dir.      Wave Hgt.

0100	14° 06' N	109° 26' W				
0200						
0300						
0400	14° 18' N	109° 14' W				
0500	14° 18' N	109° 14' W				
0600	14° 19' N	109° 11' W				
0700	14° 28' N	109° 04' W				
0800	14° 35' N	109° 00' W				
0900	14° 43	108° 51' W				
1000	14° 51	108° 43' W				
1100	14° 55' N	108° 41' W				
1200	14° 55' N	108° 41' W				
1300	14° 58' N	108° 40' W				
1400	15° 06' N	108° 31' W				
1500	15° 12' N	108° 22' W				
1600	15° 19' N	108° 15' W				
1700	15° 19' N	108° 15' W				
1800	15° 22' N	108° 12' W				
1900	15° 30' N	108° 04' W				
2000	15° 37' N	108° 56' W				
2100	15° 44' N	108° 48' W				
2200	15° 51' N	108° 40' W				
2300	15° 54' N	107° 36' W				
2400	15° 54' N	107° 36' W				

---

0549 - 0730	16	—	1:41
0743 - 1050	25	—	2:17
1350 - 1600	21	—	2:10
1745 - 1847	11	—	1:02

---

73 miles

---

6:70

= 7.2 hrs.



Date 06 July 1967 Ship ( ) Cruise No.       

Organization                      Recorder                     

Sunrise: Time 0539 Position: Lat. 16°16'N, Long. 107°11'W

Sunset: Time 1843 Position: Lat. 17°14'N, Long. 106°15'W

Miles travelled from 0000 hours to sunrise = 33

Miles travelled from sunrise to sunset = 78

Miles travelled from sunset to 2400 hours = 44

TIME OF FIX      TYPE OF FIX      LATITUDE      LONGITUDE

1.

2.

3.

4.

5.

Hourly Positions:

Time      Latitude      Longitude      Wind Dir.      Wind Sp.      Wave Dir.      Wave Hgt.

0100						
0200						
0300						
0400	16°16'N	107°11'W				
0500	16°16'N	107°11'W				
0600	16°18'N	107°09'W				
0700	16°25'N	107°01'W				
0800	16°32'N	106°53'W				
0900	16°38'N	106°46'W				
1000	16°45'N	106°37'W				
1100	16°49'W	106°33'W				
1200	16°49'W	106°33'W				
1300	16°49'W	106°33'W				
1400	16°50'W	106°32'W				
1500	16°54'N	106°30'W				
1600	17°03'N	106°23'W				
1700	17°03'N	106°23'W				
1800	17°06'N	106°22'W				
1900	17°17'W	106°12'W				
2000	17°26'N	106°03'W				
2100	17°34'N	105°55'W				
2200	17°42'N	105°48'W				
2300	17°46'W	105°45'W				
2400	17°46'W	105°45'W				

---

0539-0730	18	- 1:51
-----------	----	--------

0750-1030	27	- 2:40
-----------	----	--------

1445-1604	15	- 1:19
-----------	----	--------

1747-1843	14	- 0:56
-----------	----	--------

---

74 miles	4:166	= 6.8 hrs
----------	-------	-----------

Date 07 July 1967 Ship ( ) Cruise No.       

Organization                      Recorder                     

Sunrise: Time 0528 Position: Lat. 18°00'N, Long. 105°30'W

Sunset: Time            Position: Lat. 19°02'N, Long. 104°21'W

Miles travelled from 0000 hours to sunrise = 20

Miles travelled from sunrise to <sup>maximum</sup> ~~sunset~~ <sub>height</sub> = 90

Miles travelled from sunset to 2400 hours =           

TIME OF FIX      TYPE OF FIX      LATITUDE      LONGITUDE

- 1.
- 2.
- 3.
- 4.
5. Mangrove Light = 19°02'N 7 104°21'W

1.3  
11.2  
2.6  
3  
3  
5

Hourly Positions:

Time      Latitude      Longitude      Wind Dir.      Wind Sp.      Wave Dir.      Wave Hgt.

0100	17°46'N	105°45'W				
0200	17°47'N	105°44'W				
0300						
0400	18°00'N	105°30'W				
0500	18°00'N	105°30'W				
0600	18°05'N	105°25'W				
0700	18°13'N	105°17'W				
0800	18°20'N	105°09'W				
0900	18°27'N	105°01'W				
1000	18°35'N	104°52'W				
1100	18°38'N	104°48'W				
1200	18°38'N	104°48'W				
1300	18°45'N	104°42'W				
1400	18°51'N	104°35'W				
1500	54	58				
1600	17°01'	1				
1700						
1800						
1900						
2000	MANZANILLO					
2100						
2200						
2300						
2400						

$$0540 - 0730 = 21 - 1:50$$

$$0750 - 1030 = 28 - 2:40$$

~~0750~~

49 mi

$$\underline{3:90} = 4.5 \text{ hrs.}$$



Date 10 July 1967 Ship ( ) Cruise No.       

Organization                      Recorder                     

Sunrise: Time 0522 Position: Lat.           , Long.           

Sunset: Time            Position: Lat.           , Long.           

Miles travelled from 0000 hours to sunrise =           

Miles travelled from sunrise to sunset =           

Miles travelled from sunset to 2400 hours =           

           TIME OF FIX      TYPE OF FIX      LATITUDE      LONGITUDE

1.

2.

3.

4.

5.

Hourly Positions:

Time    Latitude    Longitude    Wind Dir.    Wind Sp.    Wave Dir.    Wave Hgt.

0100						
0200						
0300						
0400						
0500	17 51	102 41				
0600	46	31				
0700	42	21				
0800	37	11				
0900	33	01				
1000	28	01 51				
1100	27	01 41				
1200	17° 19' N	101° 30' W				
1300	15	21				
1400	11	11				
1500	06	01				
1600	01	51				
1700	06	41				
1800	01	31				
1900	46	21				
2000	16° 41' N	100° 11' W				
2100						
2200						
2300	16° 15' N	100° 21' W				
2400	16° 15' N	100° 21' W				

10.7  
knots

0635 - 0746 =

1:11

0758 - 0905 =

1:07

1350 - 1456 =

1:06

1710 - 1730 =

0:20

3:44 = ~~3:44~~ 3.7 hrs.

01.1  
10.7  
—  
7 7  
11 0  
—  
12.1

10.7  
01.2  
—  
2 1 4  
10 7  
—  
17 8 4

10.7  
0.3  
—  
3.21

Date 11 July 1967 Ship ( ) Cruise No.       

Organization                      Recorder                     

Sunrise: Time 0519 Position: Lat. 15°52'N, Long. 100°47'W

Sunset: Time 1822 Position: Lat. 14°46'N, Long. 101°49'W

Miles travelled from 0000 hours to sunrise = 33

Miles travelled from sunrise to sunset = 90

Miles travelled from sunset to 2400 hours = 43

TIME OF FIX      TYPE OF FIX      LATITUDE      LONGITUDE

1.

2.

3.

4.

5.

Hourly Positions:

Time      Latitude      Longitude      Wind Dir.      Wind Sp.      Wave Dir.      Wave Hgt.

0100						
0200						
0300						
0400	15°52'N	100°47'W				
0500	15°52'N	100°47'W				
0600	15°49'N	100°50'W				
0700	15°42'N	100°57'W				
0800	15°35'N	101°05'W				
0900	15°27'N	101°13'W				
1000	15°20'N	101°20'W				
1100	15°17'N	101°24'W				
1200	15°16'N	101°25'W				
1300	15°10'N	101°30'W				
1400	15°04'N	101°35'W				
1500	14°55'N	101°41'W				
1600	14°50'N	101°46'W				
1700	14°50'N	101°46'W				
1800	14°46'N	101°47'W				
1900	14°41'N	101°53'W				
2000	14°33'N	102°00'W				
2100	14°25'N	102°07'W				
2200	14°17'N	102°14'W				
2300	14°13'N	102°18'W				
2400	14°13'N	102°19'W				

0519 - 0701	15	-	1:42
0720 - 0745	02	-	0:25
0815 - 1030	23	-	2:15
1400 - 1600	18	-	2:00
1727 - 1822	05	-	0:55

---

63 mi

---

5' 137

7.3 hrs.



Date 12 July 1967 Ship ( ) Cruise No.       

Organization                      Recorder                     

Sunrise: Time 0529 Position: Lat. 13°45'N, Long. 102°41'W

Sunset: Time 1825 Position: Lat. 12°32'N, Long. 103°55'W

Miles travelled from 0000 hours to sunrise = 36

Miles travelled from sunrise to sunset = 102

Miles travelled from sunset to 2400 hours = 41

TIME OF FIX      TYPE OF FIX      LATITUDE      LONGITUDE

1.

2.

3.

4.

5.

Hourly Positions:

Time      Latitude      Longitude      Wind Dir.      Wind Sp.      Wave Dir.      Wave Hgt.

0100						
0200						
0300						
0400	13° 45' N	102° 41' W				
0500	13° 45' N	102° 41' W				
0600	13° 42' N	102° 44' W				
0700	13° 35' N	102° 51' W				
0800	13° 28' N	102° 59' W				
0900	13° 20' N	103° 06' W				
1000	13° 19' N	103° 13' W				
1100	13° 08' N	103° 17' W				
1200	13° 07' N	103° 18' W				
1300	13° 01' N	103° 25' W				
1400	12° 55' N	103° 32' W				
1500	12° 47' N	103° 40' W				
1600	12° 38' N	103° 47' W				
1700	12° 38' N	103° 47' W				
1800	12° 35' N	103° 51' W				
1900	12° 28' N	103° 59' W				
2000	12° 20' N	104° 06' W				
2100	12° 13' N	104° 13' W				
2200	12° 05' N	104° 20' W				
2300	12° 03' N	104° 23' W				
2400	12° 01' N	104° 24' W				

0605 - 0735 = 14 - 1:30

0759 - 1030 = 26 - 2:31

1345 - 1601 = 25 - 2:16

1717 - 1825 = 09 - 1:08

74 mi      6:45 = 7.4 hrs.

~~7:24~~

Date 13 July, 1967 Ship ( ) Cruise No.       

Organization                      Recorder                     

Sunrise: Time 0540 Position: Lat. 11°23'N, Long. 104°34'W

Sunset: Time 1823 Position: Lat. 09°44'N, Long. 104°39'W

Miles travelled from 0000 hours to sunrise = 41

Miles travelled from sunrise to sunset = 98

Miles travelled from sunset to 2400 hours = 44

	TIME OF FIX	TYPE OF FIX	LATITUDE	LONGITUDE
--	-------------	-------------	----------	-----------

1.

2.

3.

4.

5.

Hourly Positions:

Time	Latitude	Longitude	Wind Dir.	Wind Sp.	Wave Dir.	Wave Hgt.
------	----------	-----------	-----------	----------	-----------	-----------

0100						
0200						
0300						
0400	11° 23' N	104° 34' W				
0500	11° 23' N	104° 34' W				
0600	11° 23' N	104° 34' W				
0700	11° 18' N	104° 34' W				
0800	11° 06' N	104° 34' W				
0900	10° 56' N	104° 34' W				
1000	10° 46' N	104° 34' W				
1100	10° 37' N	104° 34' W				
1200	10° 35' N	104° 34' W				
1300	10° 29' N	104° 34' W				
1400	10° 19' N	104° 36' W				
1500	10° 06' N	104° 38' W				
1600	09° 54' N	104° 39' W				
1700	09° 54' N	104° 39' W				
1800	09° 50' N	104° 39' W				
1900	09° 38' N	104° 39' W				
2000	09° 27' N	104° 39' W				
2100	09° 16' N	104° 39' W				
2200	09° 04' N	104° 39' W				
2300	08° 50' N	104° 39' W				
2400	08° 38' N	104° 39' W				

0615 - 0845 23 - 2:30

0913 - 1030 17 - 1:17

1340 - 1601 32 - 2:21

1703 - 1823 09 - 1:20

---

81 = 6.89 = 7.5 hrs.  
miles



Date 14 Feb 1967 Ship ( ) Cruise No.       

Organization                      Recorder                     

Sunrise: Time 0547 Position: Lat. 08°21'N, Long. 104°38'W

Sunset: Time 1817 Position: Lat. 06°51'N, Long. 104°29'W

Miles travelled from 0000 hours to sunrise = 38

Miles travelled from sunrise to sunset = 91

Miles travelled from sunset to 2400 hours = 45

	TIME OF FIX	TYPE OF FIX	LATITUDE	LONGITUDE
--	-------------	-------------	----------	-----------

1.

2.

3.

4.

5.

Hourly Positions:

Time	Latitude	Longitude	Wind Dir.	Wind Sp.	Wave Dir.	Wave Hgt.
------	----------	-----------	-----------	----------	-----------	-----------

0100						
0200						
0300						
0400	08°21'N	104°38'W				
0500	08°21'N	104°38'W				
0600	08°21'N	104°38'W				
0700	08°11'N	104°37'W				
0800	07°40'N	104°36'W				
0900	07°40'N	104°36'W				
1000	07°38'N	104°35'W				
1100	07°34'N	104°35'W				
1200	07°34'N	104°35'W				
1300	07°25'N	104°35'W				
1400	07°17'N	104°33'W				
1500	07°08'N	104°31'W				
1600	06°58'N	104°30'W				
1700	06°58'N	104°30'W				
1800	06°54'N	104°29'W				
1900	06°43'N	104°28'W				
2000	06°32'N	104°27'W				
2100	06°21'N	104°27'W				
2200	06°10'N	104°29'W				
2300	06°05'N	104°30'W				
2400	06°05'N	104°30'W				

0610 - 0739	= 15	-	1:29
0756 - 0930	= 16	-	1:34
0953 - 1030	= 05	-	0:37
1248 - 1545	= 29	-	2:57
1705 - 1817	= 08	-	1:12

73 mils

5:169

7:49 = 7.8 hrs.

Date 15 July 1967 Ship ( ) Cruise No.       

Organization                      Recorder                     

Sunrise: Time 0550 Position: Lat. 05°26'N Long. 104°30'W

Sunset: Time 1816 Position: Lat. 04°00'N Long. 104°28'W

Miles travelled from 0000 hours to sunrise = 40

Miles travelled from sunrise to sunset = 68

Miles travelled from sunset to 2400 hours = 41

	TIME OF FIX	TYPE OF FIX	LATITUDE	LONGITUDE
--	-------------	-------------	----------	-----------

- 1.
- 2.
- 3.
- 4.
- 5.

Hourly Positions:

Time	Latitude	Longitude	Wind Dir.	Wind Sp.	Wave Dir.	Wave Hgt.
------	----------	-----------	-----------	----------	-----------	-----------

0100						
0200						
0300						
0400	05°26'N	104°30'W				
0500	05°26'N	104°30'W				
0600	05°26'N	104°30'W				
0700	05°22'N	104°30'W				
0800	05°12'N	104°30'W				
0900	05°01'N	104°30'W				
1000	04°51'N	104°29'W				
1100	04°48'N	104°29'W				
1200	04°48'N	104°29'W				
1300	04°43'N	104°29'W				
1400	04°37'N	104°29'W				
1500	04°26'N	104°28'W				
1600	04°16'N	104°28'W				
1700	04°06'N	104°28'W				
1800	04°00'N	104°28'W				
1900	04°00'N	104°28'W				
2000	03°53'N	104°28'W				
2100	03°41'N	104°28'W				
2200	03°32'N	104°28'W				
2300	03°27'N	104°27'W				
2400	03°27'N	104°27'W				

---

0615 - 0730	10	1:15
0746 - 1000	23	2:14
1450 - 1601	22	2:01
1715 - 1816	07	1:01

---

62  
miles

6.31 = 6.5 hrs.



Date 16 July 1967 Ship ( ) Cruise No.       

Organization        Recorder       

Sunrise: Time 0556 Position: Lat. 02°54'N Long. 104°26'W

Sunset: Time 1811 Position: Lat. 01°37'N Long. 104°40'W

Miles travelled from 0000 hours to sunrise = 34

Miles travelled from sunrise to sunset = 82

Miles travelled from sunset to 2400 hours = 48

TIME OF FIX      TYPE OF FIX      LATITUDE      LONGITUDE

1.

2.

3.

4.

5.

Hourly Positions:

Time      Latitude      Longitude      Wind Dir.      Wind Sp.      Wave Dir.      Wave Hgt.

0100						
0200						
0300						
0400	02°54'N	104°26'W				
0500	02°54'N	104°26'W				
0600	02°54'N	104°26'W				
0700	02°54'N	104°30'W				
0800	02°44'N	104°33'W				
0900	02°30'N	104°37'W				
1000	02°20'N	104°41'W				
1100	02°17'N	104°43'W				
1200	02°17'N	104°43'W				
1300	02°11'N	104°43'W				
1400	02°13'N	104°42'W				
1500	02°54'N	104°41'W				
1600	01°45'N	104°41'W				
1700	01°45'N	104°41'W				
1800	01°39'N	104°40'W				
1900	01°27'N	104°39'W				
2000	01°16'N	104°39'W				
2100	01°08'N	104°39'				
2200	00°58'N	104°39'				
2300	00°53'N	104°39'				
2400	00°52'N	104°39'				

---

0556 - 0730	11	1:34
0755 - 1030	25	2:35
1300 - 1600	27	3:00
1710 - 1811	08	1:01

---

7 1/2 miles 7:70

8.2 hrs.

Date 17 July 1967 Ship ( ) Cruise No.       

Organization                      Recorder                     

Sunrise: Time 0600 Position: Lat. 00°13'N, Long. 104°39'W

Sunset: Time 1806 Position: Lat. 01°07'S, Long. 104°43'W

Miles travelled from 0000 hours to sunrise = 40

Miles travelled from sunrise to sunset = 80

Miles travelled from sunset to 2400 hours = 45

	TIME OF FIX	TYPE OF FIX	LATITUDE	LONGITUDE
--	-------------	-------------	----------	-----------

1.

2.

3.

4.

5.

Hourly Positions:

Time	Latitude	Longitude	Wind Dir.	Wind Sp.	Wave Dir.	Wave Hgt.
------	----------	-----------	-----------	----------	-----------	-----------

0100						
0200						
0300						
0400	00°13'N	104°39'W				
0500	00°15'N	104°39'W				
0600	00°13'N	104°39'W				
0700	00°02'N	104°39'W				
0800	02°08'S	104°39'W				
0900	04°12'S	104°39'W				
1000	06°28'S	104°39'W				
1100	08°32'S	104°39'W				
1200	10°33'S	104°39'W				
1300	12°33'S	104°39'W				
1400	14°36'S	104°40'W				
1500	16°40'S	104°41'W				
1600	18°52'S	104°44'W				
1700	20°56'S	104°44'W				
1800	21°06'S	104°43'W				
1900	21°15'S	104°42'W				
2000	21°25'S	104°41'W				
2100	21°35'S	104°40'W				
2200	21°47'S	104°39'W				
2300	21°52'S	104°38'W				
2400	01°55'S	104°39'W				

0600 - 0730 15

0753 - 1030 26

1340 - 1600 21

1700 - 1806 11

---

73

mile

1:30

2:37

2:20

1:06

---

6:93

7.6 hrs.



Date 18 Aug 1967 Ship ( ) Cruise No.       

Organization                      Recorder                     

Sunrise: Time 0605 Position: Lat. 02° 34' S, Long. 104° 34' W

Sunset: Time 1758 Position: Lat. 03° 16' S, Long. 103° 36' W

Miles travelled from 0000 hours to sunrise = 41

Miles travelled from sunrise to sunset = 99

Miles travelled from sunset to 2400 hours = 57

TIME OF FIX      TYPE OF FIX      LATITUDE      LONGITUDE

1.

2.

3.

4.

5.

Hourly Positions:

Time      Latitude      Longitude      Wind Dir.      Wind Sp.      Wave Dir.      Wave Hgt.

0100						
0200						
0300						
0400	02° 31' S	104° 35' W				
0500	02° 31' S	104° 35' W				
0600	02° 35' S	104° 34' W				
0700	02° 46' S	104° 32' W				
0800	02° 56' S	104° 31' W				
0900	03° 06' S	104° 30' W				
1000	03° 17' S	104° 29' W				
1100	03° 22' S	104° 28' W				
1200	03° 22' S	104° 26' W				
1300	03° 21' S	104° 24' W				
1400	03° 20' S	104° 24' W				
1500	03° 19' S	104° 25' W				
1600	03° 18' S	104° 25' W				
1700	03° 17' S	104° 25' W				
1800	03° 16' S	104° 26' W				
1900	03° 15' S	104° 26' W				
2000	03° 12' S	104° 17' W				
2100	03° 12' S	104° 09' W				
2200	03° 11' S	104° 05' W				
2300	03° 10' S	104° 05' W				
2400	03° 09' S	104° 01' W				

0605 - 0730 - 15 - 1:25

0745 - 1030 - 28 - 2:45

1300 - 1530 - 26 - 2:30

69

mile

8:100

6.7 hrs

Date 19 Feb 1967 Ship ( ) Cruise No.       

Organization                      Recorder                     

Sunrise: Time 0550 Position: Lat. 03°04'S, Long. 101°48'W

Sunset: Time 1745 Position: Lat. 02°42'S, Long. 100°14'W

Miles travelled from 0000 hours to sunrise = 48

Miles travelled from sunrise to sunset = 101

Miles travelled from sunset to 2400 hours = 53

TIME OF FIX      TYPE OF FIX      LATITUDE      LONGITUDE

1.

2.

3.

4.

5.

Hourly Positions:

Time      Latitude      Longitude      Wind Dir.      Wind Sp.      Wave Dir.      Wave Hgt.

0100						
0200						
0300						
0400						
0500						
0600	03°04'S	101°52'W				
0700	03°05'S	101°43'W				
0800	03°02'S	101°35'W				
0900	03°01'S	101°26'W				
1000	03°01'S	101°26'W				
1100	03°00'S	101°18'W				
1200	03°00'S	101°09'W				
1300	02°59'S	101°01'W				
1400	02°57'S	100°51'W				
1500	02°54'S	100°41'W				
1600	02°51'S	100°34'W				
1700	02°49'S	100°21'W				
1800	02°47'S	100°12'W				
1900						
2000						
2100						
2200						
2300						
2400	02°42'S	99°20'W				

0550 - 0730 15 1:40

0800 - 0908 09 1:08

1000 - 1100 09 1:00

1250 - 1603 46 3:13

---

79

---

6:61

miles

7.0 hrs.



Date 20 July 1967 Ship ( ) Cruise No.       

Organization                      Recorder                     

Sunrise: Time 0538 Position: Lat. 02°38'S, Long. 98°31'W

Sunset: Time 1737 Position: Lat. 02°47'S, Long. 97°51'W

Miles travelled from 0000 hours to sunrise = 51

Miles travelled from sunrise to sunset = 56

Miles travelled from sunset to 2400 hours = 45

	TIME OF FIX	TYPE OF FIX	LATITUDE	LONGITUDE
--	-------------	-------------	----------	-----------

1.

2.

3.

4.

5.

Hourly Positions:

Time	Latitude	Longitude	Wind Dir.	Wind Sp.	Wave Dir.	Wave Hgt.
------	----------	-----------	-----------	----------	-----------	-----------

0100						
0200						
0300						
0400	02° 30' S	98° 40' W				
0500	02° 36' S	98° 32' W				
0600	02° 37' S	98° 28' W				
0700	02° 42' S	97° 20' W				
0800	02° 44' S	97° 12' W				
0900	02° 48' S	97° 05' W				
1000	02° 52' S	97° 57' W				
1100	02° 55' S	97° 50' W				
1200	02° 54' S	97° 50' W				
1300	02° 54' S	97° 50' W				
1400	02° 54' S	97° 50' W				
1500	02° 56' S	97° 50' W				
1600	02° 58' S	97° 50' W				
1700	02° 57' S	97° 52' W				
1800	02° 42' S	97° 50' W				
1900	02° 38' S	97° 48' W				
2000	02° 25' S	97° 48' W				
2100	02° 26' S	97° 42' W				
2200	02° 02' S	97° 37' W				
2300	02° 01' S	97° 28' W				
2400	02° 01' S	97° 28' W				

0615 - 0730

13

1:15

0750 - 0955

17

2:05

1010 - 1100

07

0:50

1650 - 1737

07

0:47

---

44  
miles

---

3:17

5.0 hrs.

Date 21 July 1957 Ship ( ) Cruise No.       

Organization                      Recorder                     

Sunrise: Time 0532 Position: Lat. 01°25'S, Long. 97°31'W

Sunset: Time 1840 Position: Lat. 00°04'N, Long. 97°55'W

Miles travelled from 0000 hours to sunrise = 76

Miles travelled from sunrise to sunset = 199

Miles travelled from sunset to 2400 hours = 42

	TIME OF FIX	TYPE OF FIX	LATITUDE	LONGITUDE
--	-------------	-------------	----------	-----------

1.

2.

3.

4.

5.

Hourly Positions:

Time	Latitude	Longitude	Wind Dir.	Wind Sp.	Wave Dir.	Wave Hgt.
------	----------	-----------	-----------	----------	-----------	-----------

0100	02° 02' S	97° 35' W				
0200	01° 55' S	97° 35' W				
0300	01° 48' S	97° 34' W				
0400	01° 40' S	97° 31' W				
0500	01° 40' S	97° 31' W				
0600	01° 33' S	97° 30' W				
0700	01° 25' S	97° 30' W				
0800	01° 15' S	97° 29' W				
0900	01° 02' S	97° 27' W				
1000	00° 54' S	97° 26' W				
1100	00° 47' S	97° 26' W				
1200	00° 47' S	97° 26' W				
1300	00° 44' S	97° 23' W				
1400	00° 33' S	97° 20' W				
1500	00° 26' S	97° 21' W				
1600	00° 16' S	97° 20' W				
1700	00° 16' S	97° 20' W				
1800	00° 06' S	97° 20' W				
1900	00° 05' N	97° 20' W				
2000	00° 11' N	97° 20' W				
2100	00° 17' N	97° 20' W				
2200	00° 29' N	97° 21' W				
2300	00° 44' N	97° 21' W				
2400	00° 44' N	97° 21' W				

0545 - 0730	17	-	1:45
0750 - 1031	28		2:41
1440 - 1601	14		1:21
1710 - 1840	16		1:30

---

75

mins.

---

5 137 = 7.3 hrs.



Date 22 Feb 1967 Ship ( ) Cruise No.         
Organization                      Recorder                     

Sunrise: Time 0531 Position: Lat. 31°12'N, Long. 73°52'W  
Sunset: Time 1744 Position: Lat. 32°43'N, Long. 73°00'W

Miles travelled from 0000 hours to sunrise = 28

Miles travelled from sunrise to sunset = 91

Miles travelled from sunset to 2400 hours = 53

	TIME OF FIX	TYPE OF FIX	LATITUDE	LONGITUDE
--	-------------	-------------	----------	-----------

1.

2.

3.

4.

5.

Hourly Positions:

Time	Latitude	Longitude	Wind Dir.	Wind Sp.	Wave Dir.	Wave Hgt.
------	----------	-----------	-----------	----------	-----------	-----------

0100	30°44'N	73°31'W				
0200	30°50'N	73°25'W				
0300	31°08'N	73°11'W				
0400	31°10'N	73°05'W				
0500	31°12'N	73°02'W				
0600	31°16'N	73°00'W				
0700	31°29'N	72°52'W				
0800	31°41'N	72°47'W				
0900	31°52'N	72°40'W				
1000	31°55'N	72°32'W				
1100	32°12'N	72°28'W				
1200	32°17'N	72°20'W				
1300	32°10'N	72°18'W				
1400	32°17'N	72°25'W				
1500	32°28'N	72°14'W				
1600	32°36'N	72°34'W				
1700	32°38'N	72°34'W				
1800	32°46'N	72°50'W				
1900	32°57'N	72°51'W				
2000	33°08'N	73°02'W				
2100	33°19'N	73°05'W				
2200	33°30'N	73°15'W				
2300	33°36'N	73°25'W				
2400	33°42'N	73°28'W				

0545 - 0730	— 19 —	1:45
0750 - 1025	— 30 —	2:35
1300 - 1600	— 27 —	3:00
	<hr/>	<hr/>
	76	6:80
	miles	7.3 hrs

Date 23 Feb 1967 Ship ( ) Cruise No.       

Organization                      Recorder                     

Sunrise: Time 0530 Position: Lat. 04° 09' N, Long. 97° 31' W

Sunset: Time 1749 Position: Lat. 05° 26' N, Long. 97° 26' W

Miles travelled from 0000 hours to sunrise = 33

Miles travelled from sunrise to sunset = 88

Miles travelled from sunset to 2400 hours = 51

	TIME OF FIX	TYPE OF FIX	LATITUDE	LONGITUDE
--	-------------	-------------	----------	-----------

1.

2.

3.

4.

5.

Hourly Positions:

Time	Latitude	Longitude	Wind Dir.	Wind Sp.	Wave Dir.	Wave Hgt.
------	----------	-----------	-----------	----------	-----------	-----------

0100						
0200						
0300						
0400	04° 07' N	97° 35' W				
0500	04° 07' N	97° 35' W				
0600	04° 16' N	97° 34' W				
0700	04° 26' N	97° 33' W				
0800	04° 37' N	97° 32' W				
0900	04° 46' N	97° 31' W				
1000	04° 55' N	97° 30' W				
1100	05° 04' N	97° 29' W				
1200	05° 14' N	97° 28' W				
1300	05° 24' N	97° 27' W				
1400	05° 34' N	97° 26' W				
1500	05° 44' N	97° 25' W				
1600	05° 54' N	97° 24' W				
1700	05° 54' N	97° 24' W				
1800	05° 54' N	97° 24' W				
1900	05° 54' N	97° 24' W				
2000	06° 04' N	97° 23' W				
2100	06° 14' N	97° 22' W				
2200	06° 21' N	97° 22' W				
2300	06° 26' N	97° 22' W				
2400	06° 36' N	97° 22' W				

0550 - 0730 — 18 — 1:40

0750 - 1030 — 29 — 2:40

1310 - 1600 — 26 — 2:50

1710 - 1749 — 06 — 0:39

---

79

miles

---

5:16 9

7.8 hrs



Date 24 July 1967 Ship ( ) Cruise No.       

Organization                      Recorder                     

Sunrise: Time 0522 Position: Lat. 08°34'N, Long. 97°26'W

Sunset: Time 1752 Position: Lat. 08°38'N, Long. 97°24'W

Miles travelled from 0000 hours to sunrise = 28

Miles travelled from sunrise to sunset = 71

Miles travelled from sunset to 2400 hours = 48

TIME OF FIX      TYPE OF FIX      LATITUDE      LONGITUDE

1.

2.

3.

4.

5.

Hourly Positions:

Time      Latitude      Longitude      Wind Dir.      Wind Sp.      Wave Dir.      Wave Hgt.

0100	06°27'N	97°26'W				
0200						
0300						
0400	06°31'N	97°26'W				
0500	06°32'N	97°26'W				
0600	07°01'N	97°26'W				
0700	07°12'N	97°26'W				
0800	07°23'N	97°26'W				
0900	07°34'N	97°26'W				
1000	07°45'N	97°26'W				
1100	07°45'N	97°26'W				
1200	07°45'N	97°26'W				
1300	07°45'N	97°26'W				
1400	07°45'N	97°26'W				
1500	07°45'N	97°26'W				
1600	07°46'N	97°26'W				
1700	07°46'N	97°26'W				
1800	07°46'N	97°26'W				
1900	07°46'N	97°26'W				
2000	07°46'N	97°26'W				
2100	07°46'N	97°26'W				
2200	07°46'N	97°26'W				
2300	07°46'N	97°26'W				
2400	07°46'N	97°26'W				

	mi	hr.
0545 - 0730	20	1:45
0750 - 1030	24	2:40
1610 - 1630	03	:20
1655 - 1752	08	:57
	55	3 16 2
	miles	5.5 hrs.

Date 25 July 1967 Ship ( ) Cruise No.       

Organization                      Recorder                     

Sunrise: Time 05<sup>2</sup>41 Position: Lat. 09°22'N, Long. 97°32'W

Sunset: Time 18<sup>7</sup>56 Position: Lat. 10°51'N, Long. 97°31'W

Miles travelled from 0000 hours to sunrise = 30

Miles travelled from sunrise to sunset = 100

Miles travelled from sunset to 2400 hours = 39

TIME OF FIX      TYPE OF FIX      LATITUDE      LONGITUDE

1.

2.

3.

4.

5.

Hourly Positions:

Time      Latitude      Longitude      Wind Dir.      Wind Sp.      Wave Dir.      Wave Hgt.

0100						
0200						
0300						
0400	09°22'N	97°32'W				
0500	09°22'N	97°32'W				
0600	09°38'N	97°32'W				
0700	09°38'N	97°32'W				
0800	09°48'N	97°33'W				
0900	09°59'N	97°33'W				
1000	10°10'N	97°33'W				
1100	10°13'N	97°33'W				
1200	10°13'N	97°33'W				
1300	10°16'N	97°33'W				
1400	10°24'N	97°32'W				
1500	10°34'N	97°31'W				
1600	10°44'N	97°32'W				
1700	10°48'N	97°32'W				
1800	10°51'N	97°31'W				
1900	11°02'N	97°31'W				
2000	11°13'N	97°31'W				
2100	11°24'N	97°31'W				
2200	11°35'N	97°31'W				
2300	11°41'N	97°31'W				
2400	11°41'N	97°31'W				

0545 - 0750 19  
0810 - 1030 24  
1400 - 1600 21  
1700 - 1956 08

2:05  
2:20  
2:00  
①:56

72  
miles

7:81

8.2 hrs.



Date 26 July 1967 Ship ( ) Cruise No.       

Organization                      Recorder                     

Sunrise: Time 0515 Position: Lat. 12°17'N, Long. 97°32'W

Sunset: Time 1801 Position: Lat. 13°52'N, Long. 97°30'W

Miles travelled from 0000 hours to sunrise = 34

Miles travelled from sunrise to sunset = 96

Miles travelled from sunset to 2400 hours = 48

TIME OF FIX      TYPE OF FIX      LATITUDE      LONGITUDE

1.

2.

3.

4.

5.

Hourly Positions:

Time      Latitude      Longitude      Wind Dir.      Wind Sp.      Wave Dir.      Wave Hgt.

0100	11°44'N	97°31'W				
0200						
0300						
0400	12°15'N	97°32'W				
0500	12°15'N	97°32'W				
0600	12°25'N	97°32'W				
0700	12°36'N	97°31'W				
0800	12°47'N	97°31'W				
0900	12°58'N	97°31'W				
1000	13°09'N	97°31'W				
1100	13°14'N	97°31'W				
1200	13°14'N	97°31'W				
1300	13°18'N	97°26'W				
1400	13°28'N	97°26'W				
1500	13°38'N	97°31'W				
1600	13°48'N	97°30'W				
1700	13°45'N	97°30'W				
1800	13°52'N	97°30'W				
1900	14°03'N	97°30'W				
2000	14°14'N	97°30'W				
2100	14°24'N	97°30'W				
2200	14°34'N	97°30'W				
2300	14°38'N	97°30'W				
2400	14°40'N	97°30'W				

0530 - 0730	24	2:00
0750 - 1015	26	2:25
1350 - 1600	23	2:10
1710 - <del>1800</del> 1801	05	0:51
78 miles		6:86
		7.3 hrs.

# Mammals

	Pups	Whel	Adults	Spun	712	Spotted Duck	Sand Piper			
13 June	0	0	0	0	0					
16 June	75±	0	0	0	0					
17 June	70±	0	0	0	0					
18 "	0	0	0	0	0					
19 "	0	0	0	0	0					
20 "	0	0	0	0	0					
21 "	0	0	0	0	0					
22 "	0	0	0	0	0					
23 "	0	0	0	0	0					
24 "	0	0	0	0	0					
25 "	0	0	0	0	0					
26 "	0	0	0	0	0					
27 "	0	0	0	0	0					
28 "	0	0	0	0	0					
29 "	0	0	0	0	0					
30 "	0	0	0	0	0					
31 "	0	0	0	0	0					
32 "	0	0	0	0	0					
33 "	0	0	0	0	0					
34 "	0	0	0	0	0					
35 "	0	0	0	0	0					
36 "	0	0	0	0	0					
37 "	0	0	0	0	0					
38 "	0	0	0	0	0					
39 "	0	0	0	0	0					
40 "	0	0	0	0	0					
41 "	0	0	0	0	0					
42 "	0	0	0	0	0					
43 "	0	0	0	0	0					
44 "	0	0	0	0	0					
45 "	0	0	0	0	0					
46 "	0	0	0	0	0					
47 "	0	0	0	0	0					
48 "	0	0	0	0	0					
49 "	0	0	0	0	0					
50 "	0	0	0	0	0					
51 "	0	0	0	0	0					
52 "	0	0	0	0	0					
53 "	0	0	0	0	0					
54 "	0	0	0	0	0					
55 "	0	0	0	0	0					
56 "	0	0	0	0	0					
57 "	0	0	0	0	0					
58 "	0	0	0	0	0					
59 "	0	0	0	0	0					
60 "	0	0	0	0	0					
61 "	0	0	0	0	0					
62 "	0	0	0	0	0					
63 "	0	0	0	0	0					
64 "	0	0	0	0	0					
65 "	0	0	0	0	0					
66 "	0	0	0	0	0					
67 "	0	0	0	0	0					
68 "	0	0	0	0	0					
69 "	0	0	0	0	0					
70 "	0	0	0	0	0					
71 "	0	0	0	0	0					
72 "	0	0	0	0	0					
73 "	0	0	0	0	0					
74 "	0	0	0	0	0					
75 "	0	0	0	0	0					
76 "	0	0	0	0	0					
77 "	0	0	0	0	0					
78 "	0	0	0	0	0					
79 "	0	0	0	0	0					
80 "	0	0	0	0	0					
81 "	0	0	0	0	0					
82 "	0	0	0	0	0					
83 "	0	0	0	0	0					
84 "	0	0	0	0	0					
85 "	0	0	0	0	0					
86 "	0	0	0	0	0					
87 "	0	0	0	0	0					
88 "	0	0	0	0	0					
89 "	0	0	0	0	0					
90 "	0	0	0	0	0					
91 "	0	0	0	0	0					
92 "	0	0	0	0	0					
93 "	0	0	0	0	0					
94 "	0	0	0	0	0					
95 "	0	0	0	0	0					
96 "	0	0	0	0	0					
97 "	0	0	0	0	0					
98 "	0	0	0	0	0					
99 "	0	0	0	0	0					
100 "	0	0	0	0	0					
101 "	0	0	0	0	0					
102 "	0	0	0	0	0					
103 "	0	0	0	0	0					
104 "	0	0	0	0	0					
105 "	0	0	0	0	0					
106 "	0	0	0	0	0					
107 "	0	0	0	0	0					
108 "	0	0	0	0	0					
109 "	0	0	0	0	0					
110 "	0	0	0	0	0					
111 "	0	0	0	0	0					
112 "	0	0	0	0	0					
113 "	0	0	0	0	0					
114 "	0	0	0	0	0					
115 "	0	0	0	0	0					
116 "	0	0	0	0	0					
117 "	0	0	0	0	0					
118 "	0	0	0	0	0					
119 "	0	0	0	0	0					
120 "	0	0	0	0	0					
121 "	0	0	0	0	0					
122 "	0	0	0	0	0					
123 "	0	0	0	0	0					
124 "	0	0	0	0	0					
125 "	0	0	0	0	0					
126 "	0	0	0	0	0					
127 "	0	0	0	0	0					
128 "	0	0	0	0	0					
129 "	0	0	0	0	0					
130 "	0	0	0	0	0					
131 "	0	0	0	0	0					
132 "	0	0	0	0	0					
133 "	0	0	0	0	0					
134 "	0	0	0	0	0					
135 "	0	0	0	0	0					
136 "	0	0	0	0	0					
137 "	0	0	0	0	0					
138 "	0	0	0	0	0					
139 "	0	0	0	0	0					
140 "	0	0	0	0	0					
141 "	0	0	0	0	0					
142 "	0	0	0	0	0					
143 "	0	0	0	0	0					
144 "	0	0	0	0	0					
145 "	0	0	0	0	0					
146 "	0	0	0	0	0					
147 "	0	0	0	0	0					
148 "	0	0	0	0	0					
149 "	0	0	0	0	0					
150 "	0	0	0	0	0					
151 "	0	0	0	0	0					
152 "	0	0	0	0	0					
153 "	0	0	0	0	0					
154 "	0	0	0	0	0					
155 "	0	0	0	0	0					
156 "	0	0	0	0	0					
157 "	0	0	0	0	0					
158 "	0	0	0	0	0					
159 "	0	0	0	0	0					
160 "	0	0	0	0	0					
161 "	0	0	0	0	0					
162 "	0	0	0	0	0					
163 "	0	0	0	0	0					
164 "	0	0	0	0	0					
165 "	0	0	0	0	0					
166 "	0	0	0	0	0					
167 "	0	0	0	0	0					
168 "	0	0	0	0	0					
169 "	0	0	0	0	0					
170 "	0	0	0	0	0					
171 "	0	0	0	0	0					
172 "	0	0	0	0	0					
173 "	0	0	0	0	0					
174 "	0	0	0	0	0					
175 "	0	0	0	0	0					
176 "	0	0	0	0	0					
177 "	0	0	0	0	0					
178 "	0	0	0	0	0					
179 "	0	0	0	0	0					
180 "	0	0	0	0	0					
181 "	0	0	0	0	0					
182 "	0	0	0	0	0					
183 "	0	0	0	0	0					
184 "	0	0	0	0	0					
185 "	0	0	0	0	0					
186 "	0	0	0	0	0					
187 "	0	0	0	0	0					
188 "	0	0	0	0	0					
189 "	0	0	0	0	0					
190 "	0	0	0	0	0					
191 "	0	0	0	0	0					
192 "	0	0	0	0	0					
193 "	0	0	0	0	0					
194 "	0	0	0	0	0					
195 "	0	0	0	0	0					
196 "	0	0	0	0	0					
197 "	0	0	0	0	0					
198 "	0	0	0	0	0					
199 "	0	0	0	0	0					
200 "	0	0	0	0	0					
201 "	0	0	0	0	0					
202 "	0	0	0	0	0					
203 "	0	0	0	0	0					
204 "	0	0	0	0	0					
205 "	0	0	0	0	0					
206 "	0	0	0	0	0					
207 "	0	0	0	0	0					
208 "	0	0	0	0	0					
209 "	0	0	0	0	0					
210 "	0	0	0</							





[illegible]

# 4th & 5th leagues

4/0

	Points	Goals				Points	Goals		Notes?
1/2	10								
2/4									
3/6									
4/8									
5/10									
6/12									
7/14									
8/16									
9/18									
10/20									
11/22									
12/24									
13/26									
14/28									
15/30									
16/32									
17/34									
18/36									
19/38									
20/40									
21/42									
22/44									
23/46									
24/48									
25/50									
26/52									
27/54									
28/56									
29/58									
30/60									
31/62									
32/64									
33/66									
34/68									
35/70									
36/72									
37/74									
38/76									
39/78									
40/80									
41/82									
42/84									
43/86									
44/88									
45/90									
46/92									
47/94									
48/96									
49/98									
50/100									
51/102									
52/104									
53/106									
54/108									
55/110									
56/112									
57/114									
58/116									
59/118									
60/120									
61/122									
62/124									
63/126									
64/128									
65/130									
66/132									
67/134									
68/136									
69/138									
70/140									
71/142									
72/144									
73/146									
74/148									
75/150									
76/152									
77/154									
78/156									
79/158									
80/160									
81/162									
82/164									
83/166									
84/168									
85/170									
86/172									
87/174									
88/176									
89/178									
90/180									
91/182									
92/184									
93/186									
94/188									
95/190									
96/192									
97/194									
98/196									
99/198									
100/200									



B. Fress





DATE	Time	Station	Temp.	Salin.	Temp.	Salin.	Temp.	Salin.	Temp.	Salin.	Temp.	Salin.
			0 <sup>m</sup>	0 <sup>m</sup>	10 <sup>m</sup>	10 <sup>m</sup>	100 <sup>m</sup>	100 <sup>m</sup>	300 <sup>m</sup>	300 <sup>m</sup>	500 <sup>m</sup>	500 <sup>m</sup>
16	June	2035	001	19.40	33.96	19.40	33.95					
16	"	2334	002	19.32	33.96	19.32	33.96					
17	"	0232	003	19.86	34.11	19.86	34.10					
17	"	0535	004	20.12	34.31	20.12	34.32					
17	"	0832	005	21.10	34.63	21.10	34.62					
17	"	1135	006	21.02	34.56	21.02	34.55					
17	"	<del>1433</del> <del>1434</del>	007	22.3 <sup>5</sup>	<del>34.60</del>	22.24	34.60					
17	"	1604	008	22.90	34.50	22.84	34.50					
17	"	2233	010	23.97	34.40	23.97	34.40					
18	"	0405	012	24.08	34.40	24.08	34.46					
18	"	<del>1033</del>	014	24.65	34.36	24.65	34.38					
18	"	1608	016	24.98	<del>34.38</del>	24.45	34.55					
18	"	2237	018	24.79	34.37	24.58	34.40					
19	"	0406	020	26.00	34.15	26.00	34.15					
19	"	1038	022	26.00	34.22	26.00	34.22					
19	"	1605	024	26.29	34.24	26.23	34.25					
19	"	2235	026	27.04	<del>34.17</del>	27.02	34.17					
20	"	0405	028	26.60	34.13	26.60	34.13					
20	"	1034	030	27.40	33.78	27.40	33.78					
20	"	1611	032	27.40	33.79	27.35	33.78					
20	"	2232	034	27.50	33.80	27.50	33.82					
21	"	0405	036	27.39	33.63	27.39	33.63					
21	"											
21	"	1607	039	27.55	33.36	27.55	33.40					
21	"	2234	041	27.46	33.51	27.46	33.51					
22	"	0405	043	27.59	<del>33.68</del>	27.59	33.68					
22	"	1034	045	27.45	33.80	27.44	33.84					
22	"	1604	047	27.57	33.84	27.55	34.12					
22	"	1937	048	27.45	33.94	27.54	33.95					
22	"	2234	049	27.45	34.20	27.50	34.24					
23	"	0405	051	27.51	34.46	27.51	34.46					
23	"	0803	052	27.47	34.50	27.47	34.50					
23	"	1036	053	27.37	34.48	27.37	34.48					
23	"	1603	055	27.35	34.49	27.32	34.50					
23	"	2003	056	27.22	34.43	27.22	34.43					
23	"		054	27.37	34.59	27.37	34.59					
23	"	2335	057	27.09	34.52	27.09	34.51					





Date	Time	Station	T S		T S		T S		T S		T S	
			0 <sup>m</sup>	0 <sup>m</sup>	10 <sup>m</sup>	10 <sup>m</sup>	100 <sup>m</sup>	100 <sup>m</sup>	300 <sup>m</sup>	300 <sup>m</sup>	500	500
01 July	0404	098	25.75	35.10	25.75	35.10						
01 "	0803	099	25.98	35.12	25.98	35.12						
01 "	1034	100	26.71	34.79	26.71	34.80						
01 "	1422	101	26.93	34.68	26.93	34.68						
<del>01</del> "	1607	102	27.15	34.60	27.15	34.63						
01 "	2234	104	27.32	34.09	27.32	34.10						
02 "	0404	106	27.52	33.66	27.52 <sup>65</sup>	33.66						
02 "	1036	109	27.72	33.58	27.84	33.61						
02 "	1607	110	27.96	33.42 <sup>3</sup>	27.88	33.50						
02 "	2233	112	27.97	33.56	27.93	33.62						
03 "	0404	114	28.09	33.61	28.09	33.65						
03 "	1033	116	28.33 <sup>28.33</sup>	33.82	28.37	33.94						
03 "	1602	118	28.79	33.80	28.67	33.83						
03 "	2239	120	28.46	33.97 <sup>7</sup>	28.46	33.97						
04 "	0404	122	28.48	33.85	28.51	33.85						
04 "	1034	124	28.18	34.00	28.08	34.00						
04 "	1603	126	28.50	34.03	28.05	34.07						



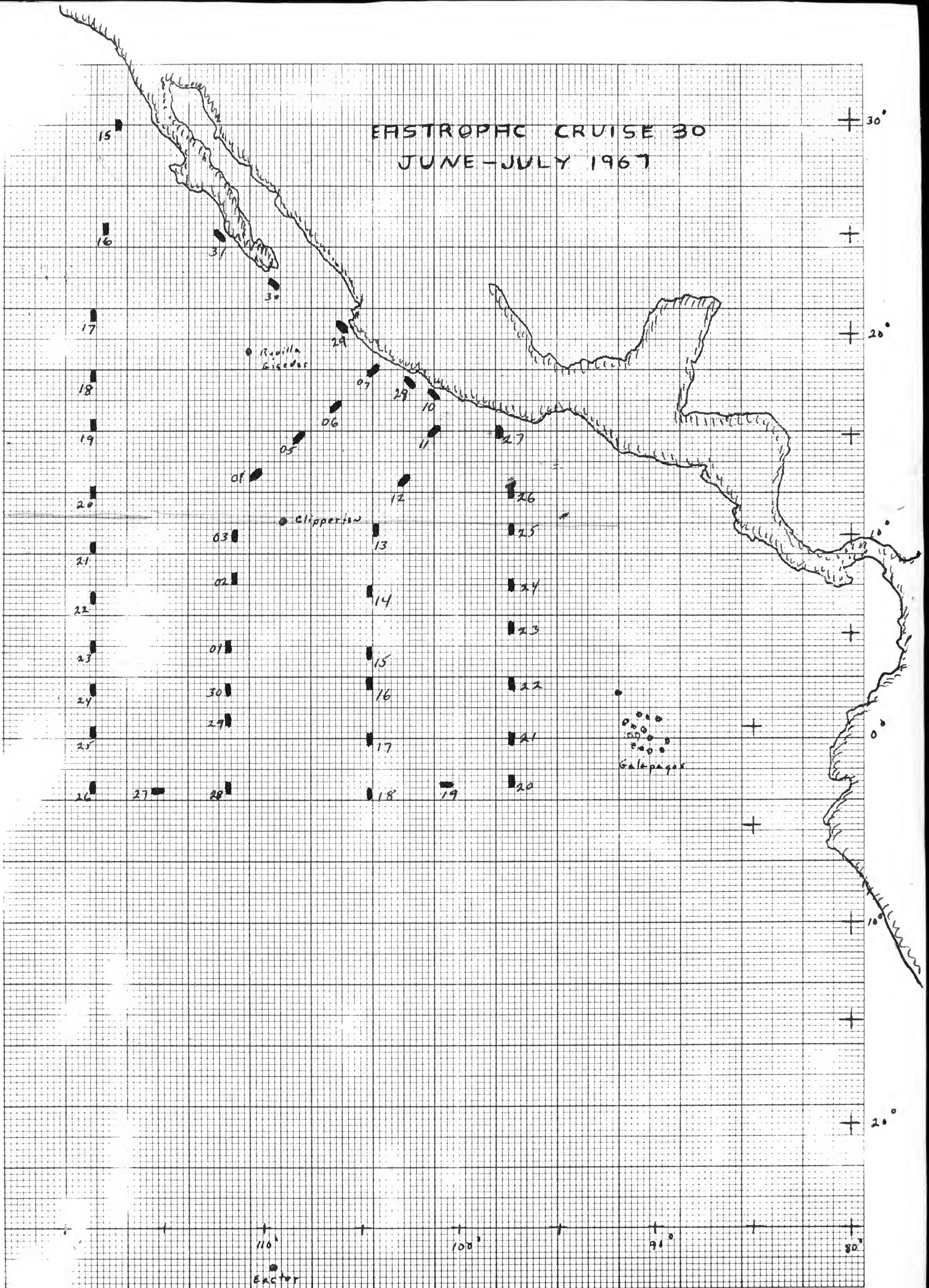
26







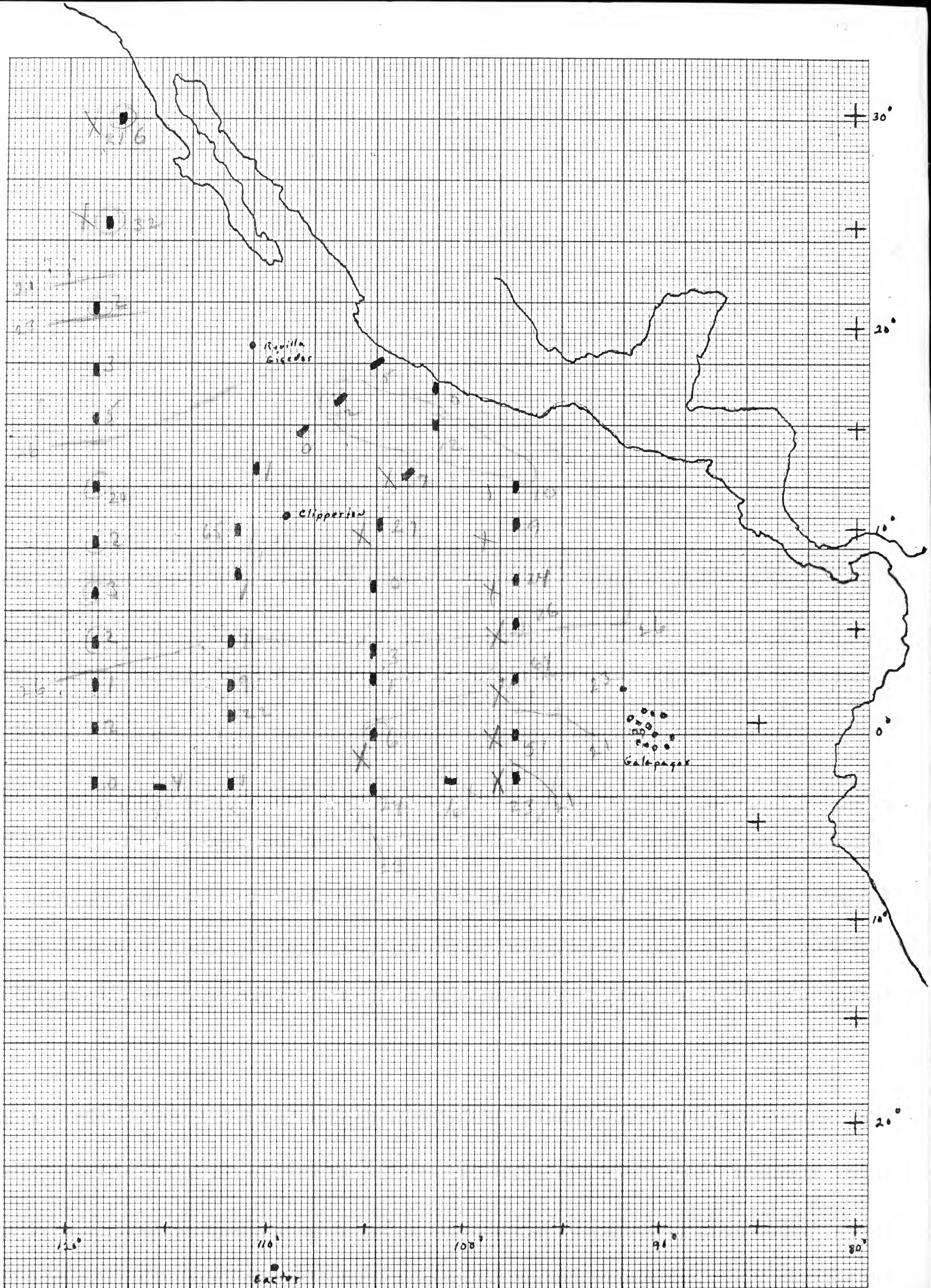
# ERSTROPHIC CRUISE 30 JUNE-JULY 1967



BEE 20x20 TO INCH



BEE 20x20 TO INCH





[illegible]

15/12 17/12 19/12 21/12 23/12 25/12 27/12 29/12 31/12

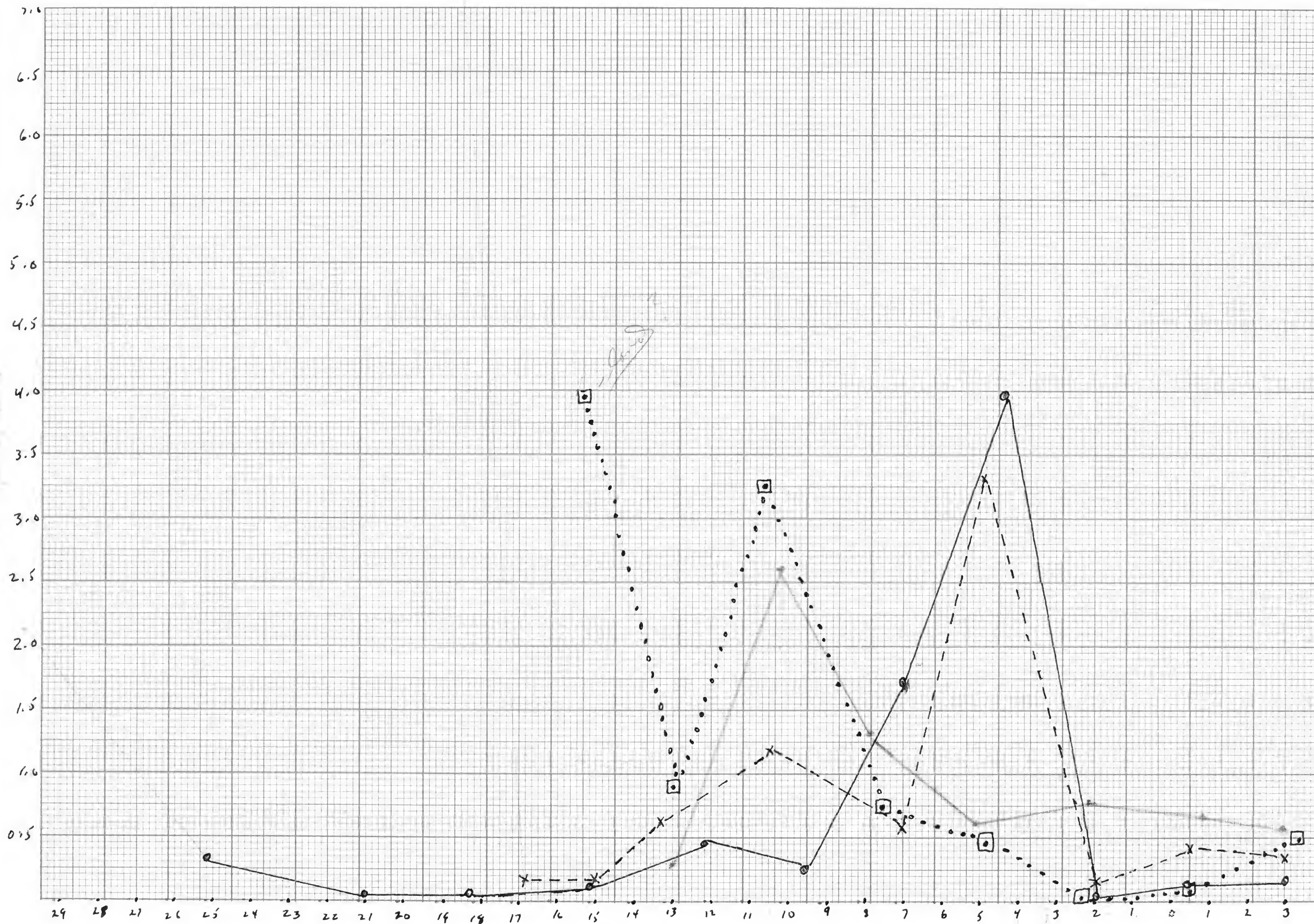
15/12	17/12	19/12	21/12	23/12	25/12	27/12	29/12	31/12
5/0	0/5	7/149	325/1	2/2	315/20	10/15	4/9	23/24
					1			
1/1	1/1							1/1
6/0	2/1						2/103	92/2
					2			
1/1								
1/1?					1/1			0/1
		1/1			2/1	2/1		1/1
		1/1						1/1?
		1						
	1/2	5/116	161/5	7/13	6/4	83/41	13/29	12/4
		2				1		253/48
	1/6	2/1	1/1	1/1		2/1		
				11/17	1/4	4/4		
				1				
156/15	2/2	5/20	1/2	2/2	18/3?	5/1	57/1	10/4
13/5								1/1
			1/1		5/4?			
4/3								1/1
			1/1		2/1			
		1						
				4/1	1			
		1						
1/1							1	1
	0/5	1/1		1/1	2/1	5/1		
						1/1		
					2/1			1
							1/1	2
								60/33
							2	
					1	1		3/1
					137/2		30/3	1
4								

Pink-footed Shear	9/8	0/0	0/0				1/0
Bonaparte	11/2	0/0	0/0				3/0
Guller Gull	10/7	0/0	0/0				22
Sooty Tern	5/2	0/0	0/0				
Pink-footed Shear							


Stage/Ret	0/10	1/1	7/26	25/299	46/1	110/1	18	34/36	9/6	41/92	33	1/10	21/19	12/22	426/116
Open total	216/22	2/3	5/202	4	2/1	21/0	4/1	22/4	10/1	68/1	5	5			12/9
2 good	1/0		0/5	2/1		0	0/0	1/1	2/2	2/0	6/5	0/1	0/0		1
3 good	0/0		0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	30
4 good	0/0		0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	
5 good	0/0		0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	
6 good	0/0		0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	
7 good	0/0		0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	
8 good	0/0		0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	
9 good	0/0		0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	
10 good	0/0		0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	
11 good	0/0		0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	
12 good	0/0		0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	
13 good	0/0		0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	
14 good	0/0		0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	
15 good	0/0		0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	
16 good	0/0		0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	
17 good	0/0		0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	
18 good	0/0		0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	
19 good	0/0		0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	
20 good	0/0		0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	
21 good	0/0		0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	
22 good	0/0		0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	
23 good	0/0		0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	
24 good	0/0		0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	
25 good	0/0		0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	
26 good	0/0		0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	
27 good	0/0		0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	
28 good	0/0		0/0	0/0	0/0	0/0</									

Total Holes: 15/1 1/2 2/2 7/6 1/5 2/4 2/1 2/4 3/3 3/1 4/1  
 Total Holes: 15/1 1/2 2/2 7/6 1/5 2/4 2/1 2/4 3/3 3/1 4/1







1	GROUP SORT							SEX NOTCH M	
2								AGE NOTCH AD.	
3		SPECIES _____ MUS. No. _____						PERM. RESIDENT	
4		LOCALITY _____						BREEDING	
5		_____ DATE _____						MIGRANT	
6								TRANSIENT	
7		COLLECTOR _____ FIELD No _____						ACCIDENTAL	
8		HOW TAKEN _____ DISPO OF SPEC _____						STATUS ?	
9		AGE _____ SEX _____ WT _____ RECORDER _____						SHIPBD. RECORD	
10		WING _____ TAIL _____ CULMEN _____ TARSUS _____ MID. TOE _____						SIGHT RECORD	
11		COLOR NOTES:						SPECIMEN	
12								POP OBSER.	
13								POP SPECIMEN	
14								NIGHT RECORD	
15		HABITAT:						NESTING	
16								EGGS	
17								YOUNG	
18								FOODS NOTED	
<div>A14374X </div>									
1	HUNDREDS	SPECIES	1 SPHENISCIFORMES	ALCAE	HIRUNDINIDAE	TROGLODYTIDAE	NECTARINIIDAE	BLOOD SAMPLE	
2			CASUARIIFORMES	10 COLUMBIFORMES	DICRURIDAE	MIMIDAE	DICAEIDAE	ECTOPARASITES	
4			APTERYGIIFORMES	PSITTACIFORMES	ORIOIDAE	TURDIDAE	ZOSTEROPIDAE	ENDOPARASITES	
7			2 GAVIIFORMES	CUCULIFORMES	CORVIDAE	SYLVIIDAE	VIREONIDAE	MOLT	
			PODICIPEDIFORMES	STRIGIFORMES	CRATICIDAE	REGULIDAE	18 DREPANIDIDAE	ANTARCTIC	
1	TENS	SPECIES	3 PROCELLARIIF.	CAPRIMULGIF.	GRALLINIDAE	MUSCICAPIDAE	PARULIDAE	AUSTRALIAN	
2			4 PELECANIFORMES	APODIFORMES	14 PTILONORHYNCH.	16 MOTACILLIDAE	ICTERIDAE	ETHIOPIAN	
4			5 CICONIIFORMES	11 TROGONIFORMES	PARADISEIDAE	BOMBYCILLIDAE	FRINGILLIDAE	NEARCTIC	
7			ANSERIFORMES	CORACIIFORMES	PARIDAE	ARTAMIDAE	CARDUELIDAE	NEOTROPICAL	
			6 FALCONIFORMES	PICIFORMES	SITTIDAE	LANIIDAE	PLOCEIDAE	OCEANIC	
1	UNITS	SPECIES	GALLIFORMES	12 EURYLAIMI	CERTHIIDAE	PRIONOPIDAE		ORIENTAL	
2			7 GRUIFORMES	TYRANNI	TIMALIIDAE	CALLAEIDAE		PALEARCTIC	
4			8 CHARADRII	MENURAE	CAMPEPHAGIDAE	17 STURNIDAE			
7			9 LARI	13 ALAUDIDAE	15 CINCLIDAE	MELIPHAGIDAE			

1	ALASKA	REPRODUCTION:	YEAR	1700 →		
2	ALEUTIANS			1800 →		
3	ANTARCTIC			TENS	1	
4	AUSTRALIA, TASMANIA				2	
5	BONIN, VOLCANO IS.				4	
6	CAROLINES			7		
7	CHINA, FORMOSA	MOLT:	UNITS	1		
8	COOK ISLANDS			2		
9	ELLICE ISLANDS			4		
10	FIJI ISLANDS			7		
11	GILBERTS	MONTH	JAN			
12	HAWAIIANS		FEB			
13	INDONESIA <sup>a</sup>		MAR			
14	JAPAN, RIUKIU, DAITO		APR			
15	KAMCHATKA PEN. <sup>b</sup>		MAY			
16	KOREA		JUNE			
17	LINE ISLANDS		JULY			
18	MARIANAS		AUG			
19	MARQUESAS		SEPT			
20	MARSHALLS		OCT			
21	NEW CALE., LOYALTY		NOV			
22	NEW GUINEA <sup>c</sup>		DEC			
23	NEW HEB., SANTA CRUZ	FRAC.	1 - 10			
24	NEW ZEALAND <sup>d</sup>		11 - 20			
25	N. AMER. & ISLANDS		21 - 31			
26	PHILIPPINES	GROUP	A			
27	PHOENIX, TOKELAU		B			
28	SAMOA, TONGA		C			
29	SIBERIA	ISLAND	TENS	1		
30	SOCIETY, TUBUAI			2		
31	SOLOMONS			4		
32	S. AMER. & ISLANDS	SORT	UNITS	7		
33	TUAMOTU ARCH. EAST			1		
34	MISC. OCEANIA			2		
35		a) Sumatra, Java, Borneo, Madura, Celebes, Moluccas, Lesser Sundas b) Commander and Kurile Islands c) Admiralty, Bismarck Arch., New Britain, New Ireland d) Auckland, Chatham, Kermadec Islands.		4		
				7		

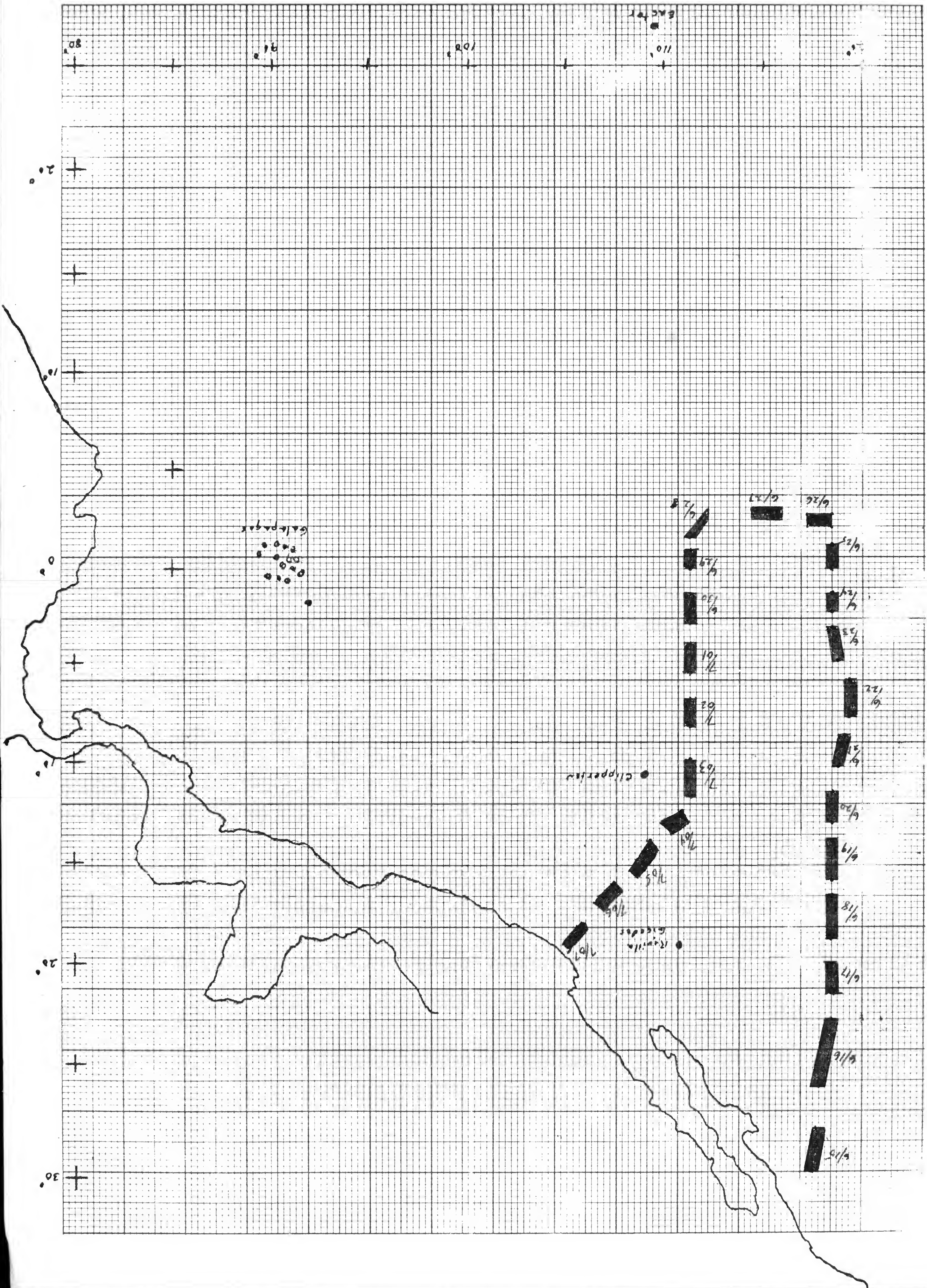
$$\begin{array}{r} 6 \\ 11 \overline{) 66} \\ \underline{66} \\ 0 \end{array}$$

# HYDROGRAPHIC

These are all but 4 days during the entire trip. The  
 most the 1st year in observation. The contours will  
 be white-sailed from 10 to 15, the 2nd 15 to 20, the 3rd 20 to 25, the 4th 25 to 30, the 5th 30 to 35, the 6th 35 to 40, the 7th 40 to 45, the 8th 45 to 50, the 9th 50 to 55, the 10th 55 to 60, the 11th 60 to 65, the 12th 65 to 70, the 13th 70 to 75, the 14th 75 to 80, the 15th 80 to 85, the 16th 85 to 90, the 17th 90 to 95, the 18th 95 to 100, the 19th 100 to 105, the 20th 105 to 110, the 21st 110 to 115, the 22nd 115 to 120, the 23rd 120 to 125, the 24th 125 to 130, the 25th 130 to 135, the 26th 135 to 140, the 27th 140 to 145, the 28th 145 to 150, the 29th 150 to 155, the 30th 155 to 160, the 31st 160 to 165, the 32nd 165 to 170, the 33rd 170 to 175, the 34th 175 to 180, the 35th 180 to 185, the 36th 185 to 190, the 37th 190 to 195, the 38th 195 to 200, the 39th 200 to 205, the 40th 205 to 210, the 41st 210 to 215, the 42nd 215 to 220, the 43rd 220 to 225, the 44th 225 to 230, the 45th 230 to 235, the 46th 235 to 240, the 47th 240 to 245, the 48th 245 to 250, the 49th 250 to 255, the 50th 255 to 260, the 51st 260 to 265, the 52nd 265 to 270, the 53rd 270 to 275, the 54th 275 to 280, the 55th 280 to 285, the 56th 285 to 290, the 57th 290 to 295, the 58th 295 to 300, the 59th 300 to 305, the 60th 305 to 310, the 61st 310 to 315, the 62nd 315 to 320, the 63rd 320 to 325, the 64th 325 to 330, the 65th 330 to 335, the 66th 335 to 340, the 67th 340 to 345, the 68th 345 to 350, the 69th 350 to 355, the 70th 355 to 360, the 71st 360 to 365, the 72nd 365 to 370, the 73rd 370 to 375, the 74th 375 to 380, the 75th 380 to 385, the 76th 385 to 390, the 77th 390 to 395, the 78th 395 to 400, the 79th 400 to 405, the 80th 405 to 410, the 81st 410 to 415, the 82nd 415 to 420, the 83rd 420 to 425, the 84th 425 to 430, the 85th 430 to 435, the 86th 435 to 440, the 87th 440 to 445, the 88th 445 to 450, the 89th 450 to 455, the 90th 455 to 460, the 91st 460 to 465, the 92nd 465 to 470, the 93rd 470 to 475, the 94th 475 to 480, the 95th 480 to 485, the 96th 485 to 490, the 97th 490 to 495, the 98th 495 to 500, the 99th 500 to 505, the 100th 505 to 510, the 101st 510 to 515, the 102nd 515 to 520, the 103rd 520 to 525, the 104th 525 to 530, the 105th 530 to 535, the 106th 535 to 540, the 107th 540 to 545, the 108th 545 to 550, the 109th 550 to 555, the 110th 555 to 560, the 111th 560 to 565, the 112th 565 to 570, the 113th 570 to 575, the 114th 575 to 580, the 115th 580 to 585, the 116th 585 to 590, the 117th 590 to 595, the 118th 595 to 600, the 119th 600 to 605, the 120th 605 to 610, the 121st 610 to 615, the 122nd 615 to 620, the 123rd 620 to 625, the 124th 625 to 630, the 125th 630 to 635, the 126th 635 to 640, the 127th 640 to 645, the 128th 645 to 650, the 129th 650 to 655, the 130th 655 to 660, the 131st 660 to 665, the 132nd 665 to 670, the 133rd 670 to 675, the 134th 675 to 680, the 135th 680 to 685, the 136th 685 to 690, the 137th 690 to 695, the 138th 695 to 700, the 139th 700 to 705, the 140th 705 to 710, the 141st 710 to 715, the 142nd 715 to 720, the 143rd 720 to 725, the 144th 725 to 730, the 145th 730 to 735, the 146th 735 to 740, the 147th 740 to 745, the 148th 745 to 750, the 149th 750 to 755, the 150th 755 to 760, the 151st 760 to 765, the 152nd 765 to 770, the 153rd 770 to 775, the 154th 775 to 780, the 155th 780 to 785, the 156th 785 to 790, the 157th 790 to 795, the 158th 795 to 800, the 159th 800 to 805, the 160th 805 to 810, the 161st 810 to 815, the 162nd 815 to 820, the 163rd 820 to 825, the 164th 825 to 830, the 165th 830 to 835, the 166th 835 to 840, the 167th 840 to 845, the 168th 845 to 850, the 169th 850 to 855, the 170th 855 to 860, the 171st 860 to 865, the 172nd 865 to 870, the 173rd 870 to 875, the 174th 875 to 880, the 175th 880 to 885, the 176th 885 to 890, the 177th 890 to 895, the 178th 895 to 900, the 179th 900 to 905, the 180th 905 to 910, the 181st 910 to 915, the 182nd 915 to 920, the 183rd 920 to 925, the 184th 925 to 930, the 185th 930 to 935, the 186th 935 to 940, the 187th 940 to 945, the 188th 945 to 950, the 189th 950 to 955, the 190th 955 to 960, the 191st 960 to 965, the 192nd 965 to 970, the 193rd 970 to 975, the 194th 975 to 980, the 195th 980 to 985, the 196th 985 to 990, the 197th 990 to 995, the 198th 995 to 1000, the 199th 1000 to 1005, the 200th 1005 to 1010, the 201st 1010 to 1015, the 202nd 1015 to 1020, the 203rd 1020 to 1025, the 204th 1025 to 1030, the 205th 1030 to 1035, the 206th 1035 to 1040, the 207th 1040 to 1045, the 208th 1045 to 1050, the 209th 1050 to 1055, the 210th 1055 to 1060, the 211st 1060 to 1065, the 212th 1065 to 1070, the 213th 1070 to 1075, the 214th 1075 to 1080, the 215th 1080 to 1085, the 216th 1085 to 1090, the 217th 1090 to 1095, the 218th 1095 to 1100, the 219th 1100 to 1105, the 220th 1105 to 1110, the 221st 1110 to 1115, the 222nd 1115 to 1120, the 223rd 1120 to 1125, the 224th 1125 to 1130, the 225th 1130 to 1135, the 226th 1135 to 1140, the 227th 1140 to 1145, the 228th 1145 to 1150, the 229th 1150 to 1155, the 230th 1155 to 1160, the 231st 1160 to 1165, the 232nd 1165 to 1170, the 233rd 1170 to 1175, the 234th 1175 to 1180, the 235th 1180 to 1185, the 236th 1185 to 1190, the 237th 1190 to 1195, the 238th 1195 to 1200, the 239th 1200 to 1205, the 240th 1205 to 1210, the 241st 1210 to 1215, the 242nd 1215 to 1220, the 243rd 1220 to 1225, the 244th 1225 to 1230, the 245th 1230 to 1235, the 246th 1235 to 1240, the 247th 1240 to 1245, the 248th 1245 to 1250, the 249th 1250 to 1255, the 250th 1255 to 1260, the 251st 1260 to 1265, the 252nd 1265 to 1270, the 253rd 1270 to 1275, the 254th 1275 to 1280, the 255th 1280 to 1285, the 256th 1285 to 1290, the 257th 1290 to 1295, the 258th 1295 to 1300, the 259th 1300 to 1305, the 260th 1305 to 1310, the 261st 1310 to 1315, the 262nd 1315 to 1320, the 263rd 1320 to 1325, the 264th 1325 to 1330, the 265th 1330 to 1335, the 266th 1335 to 1340, the 267th 1340 to 1345, the 268th 1345 to 1350, the 269th 1350 to 1355, the 270th 1355 to 1360, the 271st 1360 to 1365, the 272nd 1365 to 1370, the 273rd 1370 to 1375, the 274th 1375 to 1380, the 275th 1380 to 1385, the 276th 1385 to 1390, the 277th 1390 to 1395, the 278th 1395 to 1400, the 279th 1400 to 1405, the 280th 1405 to 1410, the 281st 1410 to 1415, the 282nd 1415 to 1420, the 283rd 1420 to 1425, the 284th 1425 to 1430, the 285th 1430 to 1435, the 286th 1435 to 1440, the 287th 1440 to 1445, the 288th 1445 to 1450, the 289th 1450 to 1455, the 290th 1455 to 1460, the 291st 1460 to 1465, the 292nd 1465 to 1470, the 293rd 1470 to 1475, the 294th 1475 to 1480, the 295th 1480 to 1485, the 296th 1485 to 1490, the 297th 1490 to 1495, the 298th 1495 to 1500, the 299th 1500 to 1505, the 300th 1505 to 1510, the 301st 1510 to 1515, the 302nd 1515 to 1520, the 303rd 1520 to 1525, the 304th 1525 to 1530, the 305th 1530 to 1535, the 306th 1535 to 1540, the 307th 1540 to 1545, the 308th 1545 to 1550, the 309th 1550 to 1555, the 310th 1555 to 1560, the 311st 1560 to 1565, the 312th 1565 to 1570, the 313th 1570 to 1575, the 314th 1575 to 1580, the 315th 1580 to 1585, the 316th 1585 to 1590, the 317th 1590 to 1595, the 318th 1595 to 1600, the 319th 1600 to 1605, the 320th 1605 to 1610, the 321st 1610 to 1615, the 322nd 1615 to 1620, the 323rd 1620 to 1625, the 324th 1625 to 1630, the 325th 1630 to 1635, the 326th 1635 to 1640, the 327th 1640 to 1645, the 328th 1645 to 1650, the 329th 1650 to 1655, the 330th 1655 to 1660, the 331st 1660 to 1665, the 332nd 1665 to 1670, the 333rd 1670 to 1675, the 334th 1675 to 1680, the 335th 1680 to 1685, the 336th 1685 to 1690, the 337th 1690 to 1695, the 338th 1695 to 1700, the 339th 1700 to 1705, the 340th 1705 to 1710, the 341st 1710 to 1715, the 342nd 1715 to 1720, the 343rd 1720 to 1725, the 344th 1725 to 1730, the 345th 1730 to 1735, the 346th 1735 to 1740, the 347th 1740 to 1745, the 348th 1745 to 1750, the 349th 1750 to 1755, the 350th 1755 to 1760, the 351st 1760 to 1765, the 352nd 1765 to 1770, the 353rd 1770 to 1775, the 354th 1775 to 1780, the 355th 1780 to 1785, the 356th 1785 to 1790, the 357th 1790 to 1795, the 358th 1795 to 1800, the 359th 1800 to 1805, the 360th 1805 to 1810, the 361st 1810 to 1815, the 362nd 1815 to 1820, the 363rd 1820 to 1825, the 364th 1825 to 1830, the 365th 1830 to 1835, the 366th 1835 to 1840, the 367th 1840 to 1845, the 368th 1845 to 1850, the 369th 1850 to 1855, the 370th 1855 to 1860, the 371st 1860 to 1865, the 372nd 1865 to 1870, the 373rd 1870 to 1875, the 374th 1875 to 1880, the 375th 1880 to 1885, the 376th 1885 to 1890, the 377th 1890 to 1895, the 378th 1895 to 1900, the 379th 1900 to 1905, the 380th 1905 to 1910, the 381st 1910 to 1915, the 382nd 1915 to 1920, the 383rd 1920 to 1925, the 384th 1925 to 1930, the 385th 1930 to 1935, the 386th 1935 to 1940, the 387th 1940 to 1945, the 388th 1945 to 1950, the 389th 1950 to 1955, the 390th 1955 to 1960, the 391st 1960 to 1965, the 392nd 1965 to 1970, the 393rd 1970 to 1975, the 394th 1975 to 1980, the 395th 1980 to 1985, the 396th 1985 to 1990, the 397th 1990 to 1995, the 398th 1995 to 2000, the 399th 2000 to 2005, the 400th 2005 to 2010, the 401st 2010 to 2015, the 402nd 2015 to 2020, the 403rd 2020 to 2025, the 404th 2025 to 2030, the 405th 2030 to 2035, the 406th 2035 to 2040, the 407th 2040 to 2045, the 408th 2045 to 2050, the 409th 2050 to 2055, the 410th 2055 to 2060, the 411st 2060 to 2065, the 412th 2065 to 2070, the 413th 2070 to 2075, the 414th 2075 to 2080, the 415th 2080 to 2085, the 416th 2085 to 2090, the 417th 2090 to 2095, the 418th 2095 to 2100, the 419th 2100 to 2105, the 420th 2105 to 2110, the 421st 2110 to 2115, the 422nd 2115 to 2120, the 423rd 2120 to 2125, the 424th 2125 to 2130, the 425th 2130 to 2135, the 426th 2135 to 2140, the 427th 2140 to 2145, the 428th 2145 to 2150, the 429th 2150 to 2155, the 430th 2155 to 2160, the 431st 2160 to 2165, the 432nd 2165 to 2170, the 433rd 2170 to 2175, the 434th 2175 to 2180, the 435th 2180 to 2185, the 436th 2185 to 2190, the 437th 2190 to 2195, the 438th 2195 to 2200, the 439th 2200 to 2205, the 440th 2205 to 2210, the 441st 2210 to 2215, the 442nd 2215 to 2220, the 443rd 2220 to 2225, the 444th 2225 to 2230, the 445th 2230 to 2235, the 446th 2235 to 2240, the 447th 2240 to 2245, the 448th 2245 to 2250, the 449th 2250 to 2255, the 450th 2255 to 2260, the 451st 2260 to 2265, the 452nd 2265 to 2270, the 453rd 2270 to 2275, the 454th 2275 to 2280, the 455th 2280 to 2285, the 456th 2285 to 2290, the 457th 2290 to 2295, the 458th 2295 to 2300, the 459th 2300 to 2305, the 460th 2305 to 2310, the 461st 2310 to 2315, the 462nd 2315 to 2320, the 463rd 2320 to 2325, the 464th 2325 to 2330, the 465th 2330 to 2335, the 466th 2335 to 2340, the 467th 2340 to 2345, the 468th 2345 to 2350, the 469th 2350 to 2355, the 470th 2355 to 2360, the 471st 2360 to 2365, the 472nd 2365 to 2370, the 473rd 2370 to 2375, the 474th 2375 to 2380, the 475th 2380 to 2385, the 476th 2385 to 2390, the 477th 2390 to 2395, the 478th 2395 to 2400, the 479th 2400 to 2405, the 480th 2405 to 2410, the 481st 2410 to 2415, the 482nd 2415 to 2420, the 483rd 2420 to 2425, the 484th 2425 to 2430, the 485th 2430 to 2435, the 486th 2435 to 2440, the 487th 2440 to 2445, the 488th 2445 to 2450, the 489th 2450 to 2455, the 490th 2455 to 2460, the 491st 2460 to 2465, the 492nd 2465 to 2470, the 493rd 2470 to 2475, the 494th 2475 to 2480, the 495th 2480 to 2485, the 496th 2485 to 2490, the 497th 2490 to 2495, the 498th 2495 to 2500, the 499th 2500 to 2505, the 500th 2505 to 2510, the 501st 2510 to 2515, the 502nd 2515 to 2520, the 503rd 2520 to 2525, the 504th 2525 to 2530, the 505th 2530 to 2535, the 506th 2535 to 2540, the 507th 2540 to 2545, the 508th 2545 to 2550, the 509th 2550 to 2555, the 510th 2555 to 2560, the 511st 2560 to 2565, the 512th 2565 to 2570, the 513th 2570 to 2575, the 514th 2575 to 2580, the 515th 2580 to 2585, the 516th 2585 to 2590, the 517th 2590 to 2595, the 518th 2595 to 2600, the 519th 2600 to 2605, the 520th 2605 to 2610, the 521st 2610 to 2615, the 522nd 2615 to 2620, the 523rd 2620 to 2625, the 524th 2625 to 2630, the 525th 2630 to 2635, the 526th 2635 to 2640, the 527th 2640 to 2645, the 528th 2645 to 2650, the 529th 2650 to 2655, the 530th 2655 to 2660, the 531st 2660 to 2665, the 532nd 2665 to 2670, the 533rd 2670 to 2675, the 534th 2675 to 2680, the 535th 2680 to 2685, the 536th 2685 to 2690, the 537th 2690 to 2695, the 538th 2695 to 2700, the 539th 2700 to 2705, the 540th 2705 to 2710, the 541st 2710 to 2715, the 542nd 2715 to 2720, the 543rd 2720 to 2725, the 544th 2725 to 2730, the 545th 2730 to 2735, the 546th 2735 to 2740, the 547th 2740 to 2745, the 548th 2745 to 2750, the 549th 2750 to 2755, the 550th 2755 to 2760, the 551st 2760 to 2765, the 552nd 2765 to 2770, the 553rd 2770 to 2775, the 554th 2775 to 2780, the 555th 2780 to 2785, the 556th 2785 to 2790, the 557th 2790 to 2795, the 558th 2795 to 2800, the 559th 2800 to 2805, the 560th 2805 to 2810, the 561st 2810 to 2815, the 562nd 2815 to 2820, the 563rd 2820 to 2825, the 564th 2825 to 2830, the 565th 2830 to 2835, the 566th 2835 to 2840, the 567th 2840 to 2845, the 568th 2845 to 2850, the 569th 2850 to 2855, the 570th 2855 to 2860, the 571st 2860 to 2865, the 572nd 2865 to 2870, the 573rd 2870 to 2875, the 574th 2875 to 2880, the 575th 2880 to 2885, the 576th 2885 to 2890, the 577th 2890 to 2895, the 578th 2895 to 2900, the 579th 2900 to 2905, the 580th 2905 to 2910, the 581st 2910 to 2915, the 582nd 2915 to 2920, the 583rd 2920 to 2925, the 584th 2925 to 2930, the 585th 2930 to 2935, the 586th 2935 to 2940, the 587th 2940 to 2945, the 588th 2945 to 2950, the 589th 2950 to 2955, the 590th 2955 to 2960, the 591st 2960 to 2965, the 592nd 2965 to 2970, the 593rd 2970 to 2975, the 594th 2975 to 2980, the 595th 2980 to 2985, the 596th 2985 to 2990, the 597th 2990 to 2995, the 598th 2995 to 3000, the 599th 3000 to 3005, the 600th 3005 to 3010, the 601st 3010 to 3015, the 602nd 3015 to 3020, the 603rd 3020 to 3025, the 604th 3025 to 3030, the 605th 3030 to 3035, the 606th 3035 to 3040, the 607th 3040 to 3045, the 608th 3045 to 3050, the 609th 3050 to 3055, the 610th 3055 to 3060, the 611st 3060 to 3065, the 612nd 3065 to 3070, the 613th 3070 to 3075, the 614th 3075 to 3080, the 615th 3080 to 3085, the 616th 3085 to 3090, the 617th 3090 to 3095, the 618th 3095 to 3100, the 619th 3100 to 3105, the 620th 3105 to 3110, the 621st 3110 to 3115, the 622nd 3115 to 3120, the 623rd 3120 to 3125, the 624th 3125 to 3130, the 625th 3130 to 3135, the 626th 3135 to 3140, the 627th 3140 to 3145, the 628th 3145 to 3150, the 629th 3150 to 3155, the 630th 3155 to 3160, the 631st 3160 to 3165, the 632nd 3165 to 3170, the 633rd 3170 to 3175, the 634th 3175 to 3180, the 635th 3180 to 3185, the 636th 3185 to 3190, the 637th 3190 to 3195, the 638th 3195 to 3200, the 639th 3200 to 3205, the 640th 3205 to 3210, the 641st 3210 to 3215, the 642nd 3215 to 3220, the 643rd 3220 to 3225, the 644th 3225 to 3230, the 645th 3230 to 3235, the 646th 3235 to 3240, the 647th 3240 to 3245, the 648th 3245 to 3250, the 649th 3250 to 3255, the 650th 3255 to 3260, the 651st 3260 to 3265, the 652nd 3265 to 3270, the 653rd 3270 to 3275, the 654th 3275 to 3280, the 655th 3280 to 3285, the 656th 3285 to 3290, the 657th 3290 to 3295, the 658th 3295 to 3300, the 659th 3300 to 3305, the 660th 3305 to 3310, the 661st 3310 to 3315, the 662nd 3315 to 3320, the 663rd 3320 to 3325, the 664th 3325 to 3330, the 665th 3330 to 3335, the 666th 3335 to 3340, the 667th 3340 to 3345, the 668th 3345 to 3350, the 669th 3350 to 3355, the 670th 3355 to 3360, the 671st 3360 to 3365, the 672nd 3365 to 3370, the 673rd 3370 to 3375, the 674th 3375 to 3380, the 675th 3380 to 3385, the 676th 3385 to 3390, the 677th 3390 to 3395, the 678th 3395 to 3400, the 679th 3400 to 3405, the 680th 3405 to 3410, the 681st 3410 to 3415, the 682nd 3415 to 3420, the 683rd 3420 to 3425, the 684th 3425 to 3430, the 685th 3430 to 3435, the 686th 3435 to 3440, the 687th 3440 to 3445, the 688th 3445 to 3450, the 689th 3450 to 3455, the 690th 3455 to 3460, the 691st 3460 to 3465, the 692nd 3465 to 3470, the 693rd 3470 to 3475, the 694th 3475 to 3480, the 695th 3480 to 3485, the 696th 3485 to 3490, the 697th 3490 to 3495, the 698th 3495 to 3500, the 699th 3500 to 3505, the 700th 3505 to 3510, the 701st 3510 to 3515, the 702nd 3515 to 3520, the 703rd 3520 to 3525, the 704th 3525 to 3530, the 705th 3530 to 3535, the 706th 3535 to 3540, the 707th 3540 to 3



BEE 20X20 TO INCH





NAME OF VESSEL S/S M/V					NAME OF CAPTAIN					WB FORM 615-5 (1-64)					U.S. DEPARTMENT OF COMMERCE WEATHER BUREAU										INSTRUCTIONS																																		
COUNTRY OF REGISTRY					CALL SIGN					V O Y A G E					FROM					SHIP'S WEATHER OBSERVATIONS										1. Begin a new sheet: a. For the first observation of a new month. b. At the beginning of each voyage. c. Upon sailing from one octant to another. d. Upon sailing from one ocean to another. 2. Fill in the blanks on each page of the form. (Name of vessel, barometer number, etc.) 3. Enter the coded synoptic (0000, 0600, 1200, 1800 G.C.T.) or special weather observations in columns 1 through 44.																													
MONTH					BAROMETER NO.					TO					Check (✓) TEMPERATURES (COLS. 16-18, 28-30, 32-33):										°C										°F																								
POSITION OF SHIP					WIND					WEATHER					PRESSURE					TEMPERATURE					CLOUDS (Coded)					3-HOUR PRESSURE TENDENCY					TEMPERATURE					WAVES (Make 2 entries if 2nd pattern observed)					REMARKS					CHECK (✓) IF SENT BY RADIO					INITIALS				
DAY OF MONTH (G.C.T.)	DAY OF WEEK (0-3, 5-8)	OCT. ANT (0-3, 5-8)	LATITUDE (Degrees and tenths)	LONGITUDE (Degrees and tenths)	TIME (Nearest hour 00-23) (G.C.T.)	TOTAL CLOUD AMT. (Coded) (0-9)	DIRECTION (True) (00-36)	SPEED (True knots) MEAS EST	VISIBILITY (Coded) (90-99)	PRES-ENT (Coded) (00-99)	PAST (Coded) (0-9)	CORRECTION BAROMETER AS READ (in., mb., or mm.)	DATE COMPARED BAROMETER CORRECTED (mb.)	AIR TEMP. (Round- ed)	TEMPERATURE DRY BULB (Degrees and tenths)	WET BULB (Degrees and tenths)	AMOUNT OF LOW CLOUD (0-9)	TYPE C <sub>L</sub> (0-9)	HEIGHT OF LOW CLOUD (0-9)	TYPE C <sub>H</sub> (0-9)	TYPE C <sub>M</sub> (0-9)	COURSE OF SHIP (0-9)	SPEED OF SHIP (0-9)	CHARACTERISTIC (0-9)	AMOUNT OF CHANGE (mb. and tenths)	SEA WATER (Degrees and tenths)	DIFF. AIR-SEA (-if air colder than sea)	DEW POINT (Whole degrees)	INDICATOR (Coded)	DIFF. AIR-SEA (Round- ed)	DEW POINT (Round- ed)	INDICATOR (00-36)	DIRECTION (Coded)	PERIOD (Coded)	HEIGHT (Coded)	INDICATOR (00-36)	DIRECTION (Coded)	PERIOD (Coded)	HEIGHT (Coded)	REMARKS (Enter time of wind shifts, frontal passages, beginning and ending of precipitation, coded ice data, waves over 30½ ft., etc.)	CHECK (✓) IF SENT BY RADIO	INITIALS																	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44																
—	Y	Q	L <sub>0</sub> L <sub>0</sub> L <sub>0</sub>	L <sub>0</sub> L <sub>0</sub> L <sub>0</sub>	GG	N	dd	ff	VV	ww	W	—	—	PPP	TT	—	—	N <sub>h</sub>	C <sub>L</sub>	h	C <sub>M</sub>	C <sub>H</sub>	D <sub>S</sub>	vs	a	pp	—	—	—	0	T <sub>S</sub> T <sub>S</sub>	T <sub>D</sub> T <sub>D</sub>	1	d <sub>w</sub> d <sub>w</sub>	P <sub>w</sub>	H <sub>w</sub>	1	d <sub>w</sub> d <sub>w</sub>	P <sub>w</sub>	H <sub>w</sub>	—	—	—																
					00																									0			1																										
15	5	1	321	173	06	8	04	04	98	02	2	1015.0	10	134	17	16.5	14.6	8	5	1	1	4	4	1	09	19.4	-2.9	13	0	56	13	1	04	2	2	1																							
15	5	1	311	174	12	9	34	11	98	02	2	1013.1	10	135	15	15.3	14.0	8	5	1	1	4	4	5	05	18.4	-3.1	13	0	56	13	1	34	2	2	1																							
15	5	1	300	177	18	8	34	16	98	02	2	1014.2	10	146	16	15.6	14.0	8	5	1	1	4	4	4	00	16.7	-1.1	13	0	52	13	1	34	2	3	1								33111 13017															
16	6	1	289	180	00	3	34	18	98	01	1	1011.8	10	122	18	17.8	15.6	2	8	5	0	1	4	4	8	12	17.2	0.6	14	0	01	14	1	34	2	3	1								33111 12818														
16	6	1	277	180	06	8	32	15	98	03	1	1012.9	10	128	17	17.0	15.0	8	5	1	1	4	4	2	06	17.6	-0.6	14	0	51	14	1	32	2	3	1																							
16	6	1	266	181	12	8	32	12	98	02	1	1011.0	10	114	17	16.6	14.7	8	5	1	1	4	4	6	07	18.1	-1.5	13	0	53	13	1	32	2	3	1								33111 12618															
16	6	1	255	181	18	8	34	07	98	02	2	1012.7	10	131	15	17.7	15.0	8	5	1	1	4	4	1	03	18.0	-0.3	13	0	51	13	1	33	2	1	1								33111 12518															
16	6	1	243	182	23	8	34	12	98	02	2	1011.2	10	116	19	19.0	16.4	8	8	5	1	4	4	7	10	19.6	-0.6	15	0	51	15	1	33	2	1	1								33111 12418															
17	7	1	232	183	06	8	35	11	98	02	2	1011.7	10	121	19	19.0	15.7	8	8	5	1	4	4	2	08	19.7	-0.7	14	0	51	14	1	34	2	2	1																							
17	7	1	221	185	12	8	34	09	98	02	2	1011.1	10	115	19	19.4	15.6	8	8	5	1	4	4	6	02	20.4	-1.0	13	0	52	13	1	34	2	2	1								33111 12218															
17	7	1	211	184	18	8	36	08	98	02	2	1013.9	10	143	20	19.8	16.3	8	5	1	1	4	4	2	14	21.1	-1.3	14	0	53	14	1	35	2	2	1								33111 12118															
17	7	1	204	183	23	8	36	10	98	02	2	1011.5	10	119	21	20.8	17.2	8	8	5	1	4	4	7	15	22.8	-2.0	15	0	54	15	1	36	2	2	1								33111 12018															
18	1	1	196	185	06	8	01	07	98	02	2	1013.4	10	138	22	22.2	17.8	8	8	5	1	4	3	2	15	24.1	-1.9	16	0	54	16	1	36	2	2	1																							
18	1	1	191	185	12	8	36	11	98	05	2	1012.0	10	124	22	21.5	17.5	8	8	5	1	4	3	7	08	23.9	-2.4	15	0	55	15	1	36	2	2	1								33111 11918															
18	1	1	182	185	18	8	32	06	98	02	2	1014.0	10	144	23	23.0	19.2	8	8	5	1	0	0	1	03	24.6	-1.6	17	0	53	17	1	33	2	1	1								33111 11818															
18	1	1	177	182	23	8	01	05	98	02	2	1012.1	10	125	24	24.0	20.0	8	8	5	1	4	4	7	07	24.4	-0.4	18	0	51	18	1	35	2	1	1								70011/33111 11718															
19	2	1	169	185	06	8	04	10	98	02	2	1014.2	10	146	24	23.7	20.0	8	8	5	1	4	3	2	12	25.0	-1.3	18	0	53	18	1	34	2	1	1								131200C															
19	2	1	161	185	12	7	02	10	98	02	2	1012.0	10	124	23	23.4	19.8	7	8	5	1	4	4	6	12	25.3	-1.9	18	0	54	18	1	33	2	1	1								131200C 33111 11618															
19	2	1	152	185	18	7	36	10	98	02	2	1014.0	10	144	25	25.4	22.4	7	8	5	1	0	0	0	03	25.9	-0.5	21	0	51	21	1	31	2	2	1								131100C 33111 11518															
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44																
—	Y	Q	L <sub>0</sub> L <sub>0</sub> L <sub>0</sub>	L <sub>0</sub> L <sub>0</sub> L <sub>0</sub>	GG	N	dd	ff	VV	ww	W	—	—	PPP	TT	—	—	N <sub>h</sub>	C <sub>L</sub>	h	C <sub>M</sub>	C <sub>H</sub>	D <sub>S</sub>	vs	a	pp	—	—	—	0	T <sub>S</sub> T <sub>S</sub>	T <sub>D</sub> T <sub>D</sub>	1	d <sub>w</sub> d <sub>w</sub>	P <sub>w</sub>	H <sub>w</sub>	1	d <sub>w</sub> d <sub>w</sub>	P <sub>w</sub>	H <sub>w</sub>	—	—	—																



SHIP'S WEATHER OBSERVATIONS

NAME OF VESSEL <input type="checkbox"/> S/S <input type="checkbox"/> M/V	CALL SIGN
--	-----------

MAILING ADDRESS (*American addresses preferred*)

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

CHECK FORMS OR SUPPLIES REQUIRED

☐ SHIP'S WEATHER OBSERVATIONS, WB FORM 615-5  
☐ METEOROLOGICAL RADIOTELEGRAM, WB FORM 630-9  
☐ BAROGRAM, WB FORM 455-12

WEATHER MAP BASES

☐ N. ATLANTIC - U.S. INTERCOASTAL  
☐ N. PACIFIC - U.S. INTERCOASTAL  
☐ S. ATLANTIC - U.S. INTERCOASTAL  
☐ S. PACIFIC - INDIAN OCEAN  
☐ WEATHER SERVICE FOR MERCHANT SHIPPING  
☐ ENVELOPES

INSTRUMENTS IN NEED OF SERVICE

☐ BAROMETER      ☐ BAROGRAPH      ☐ PSYCHROMETER

DO NOT WRITE BELOW

RECEIVED (*Weather Bureau Office*)

ACTION TAKEN (*Check one*)

☐ SUPPLIES FURNISHED AS MARKED X      ☐ ACKNOWLEDGED  
☐ ALL ACTION REFERRED TO CENTRAL OFFICE

DATE ACTION TAKEN

NAME OF VESSEL S/S M/V					NAME OF CAPTAIN					WB FORM 615-5 (1-64)					U.S. DEPARTMENT OF COMMERCE WEATHER BUREAU										INSTRUCTIONS																						
COUNTRY OF REGISTRY					CALL SIGN					FROM					SHIP'S WEATHER OBSERVATIONS										1. Begin a new sheet: a. For the first observation of a new month. b. At the beginning of each voyage. c. Upon sailing from one ocean to another. d. Upon sailing from one ocean to another. 2. Fill in the blanks on each page of the form. (Name of vessel, barometer number, etc.) 3. Enter the coded synoptic (0000, 0600, 1200, 1800 G.C.T.) or special weather observations in columns 1 through 44.																						
MONTH 19					BAROMETER NO.					TO					Check (✓) TEMPERATURES (COLS. 16-18, 28-30, 32-33): °C °F										4. At end of each voyage, remove all forms with completed observations and mail in the postage-free envelopes provided. 5. Radio transmission—Copy coded data for radio transmission from the unshaded numbered groups of columns. Each code group consists of five figures with a slant (/) indicating missing data. Omit code group 8 and 9 in message if no data are available.																						
DAY OF MONTH (G.C.T.)	DAY OF WEEK (0-3, 5-8)	POSITION OF SHIP		TIME (Nearest hour 00-23) (G.C.T.)	TOTAL CLOUD AMT. (Coded) (0-9)	WIND		VISIBILITY (Coded) (90-99)	WEATHER		PRESSURE		AIR TEMP. (Round- ed)	TEMPERATURE		CLOUDS (Coded)				COURSE OF SHIP (1-9)	SPEED OF SHIP (1-9)	3-HOUR PRESSURE TENDENCY (0-9)	TEMPERATURE			DIFF. AIR-SEA (Coded)	DEW POINT (Round- ed)	WAVES (Make 2 entries if 2nd pattern observed)				REMARKS (Enter time of wind shifts, frontal passages, beginning and ending of precipitation, coded ice data, waves over 30 1/2 ft., etc.)	CHECK (✓) IF SENT BY RADIO	INITIALS													
		OCT. ANT (0-3, 5-8)	LATITUDE (Degrees and tenths)			LONGITUDE (Degrees and tenths)	DI-REC-TION (True) (00-36)		SPEED (True) (00-36)	PRES-ENT (Coded) (00-99)	PAST (Coded) (0-9)	CORREC-TION (in., mb., or mm.)		DATE COMPARED (mb.)	COODED Sea Level (mb.)	DRY BULB (Degrees and tenths)	WET BULB (Degrees and tenths)	AMOUNT OF LOW CLOUD	TYPE C <sub>1</sub> (0-9)				HEIGHT OF LOW CLOUD (0-9)	TYPE C <sub>2</sub> (0-9)	TYPE C <sub>3</sub> (0-9)			SEA WATER (Degrees and tenths)	DIFF. AIR-SEA (-if air colder than sea)	DEW POINT (Whole degrees)	INDICATOR				INDICATOR	DIRECTION (00-36)	PERIOD (Coded)	HEIGHT (Coded)	INDICATOR	DIRECTION (00-36)	PERIOD (Coded)	HEIGHT (Coded)					
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44				
—	Y	Q	L <sub>0</sub> L <sub>1</sub> L <sub>2</sub>	L <sub>3</sub> L <sub>4</sub> L <sub>5</sub>	GG	N	dd	ff	VV	ww	W	—	—	PPP	TT	—	—	N <sub>h</sub>	C <sub>1</sub>	h	C <sub>2</sub>	C <sub>3</sub>	D <sub>s</sub>	v <sub>s</sub>	a	pp	—	—	—	0	T <sub>1</sub> T <sub>2</sub>	T <sub>3</sub> T <sub>4</sub>	1	d <sub>1</sub> d <sub>2</sub>	P <sub>1</sub>	H <sub>1</sub>	1	d <sub>3</sub> d <sub>4</sub>	P <sub>2</sub>	H <sub>2</sub>	—	—					
19	2	1	14.6	185	23 00	6	04	12	98	02	Z	1011.7	10	121	26	25.5	22.2	6	2	5	0	0	4	3	7	15	26.1	-0.6	21	0	51	21	1	04	2	2	1				3311	11418					
20	3	1	13.7	185	06	5	04	11	98	02	Z	1012.6	10	136	26	25.8	22.3	8	2	5	1	1	4	3	1	10	26.9	-1.1	21	0	52	21	1	04	2	2	1										
20	3	1	13.1	185	12	4	04	12	98	01	1	1010.0	10	104	26	25.5	23.5	3	2	5	1	1	4	6	12	26.7	-1.2	23	0	52	23	1	04	2	2	1				3311	11318						
20	3	1	12.2	186	18	5	08	11	98	02	1	1012.6	10	124	27	26.7	24.5	3	2	4	0	2	0	0	1	07	27.5	-0.8	24	0	52	24	1	06	2	2	1				3311	11218					
20	3	1	11.7	185	23 00	8	02	12	98	15	2	1009.4	10	098	27	27.0	25.0	5	2	4	6	1	4	4	7	17	27.3	-0.3	24	0	51	24	1	04	2	2	1				3311	11118					
21	4	1	10.5	186	06	8	01	10	97	81	8	1013.0	10	134	25	25.3	24.3	8	2	4	1	1	4	3	2	20	27.3	-2.0	24	0	54	24	1	01	2	2	1										
21	4	1	10.2	188	12	5	28	15	97	80	8	1010.2	10	106	25	25.0	24.0	6	2	4	6	1	4	4	5	07	27.4	-2.4	24	0	55	24	1	27	2	3	1				3311	11018					
21	4	1	09.6	190	18	7	27	11	98	01	8	1012.0	10	124	27	26.8	24.4	2	2	4	7	0	0	0	2	10	27.5	-0.7	24	0	51	24	1	27	2	2	1				3311	10919					
21	4	1	09.3	189	00	8	26	14	98	80	8	1009.3	10	097	25	25.0	24.0	8	2	4	1	1	3	1	6	15	27.4	-2.4	24	0	55	24	1	26	2	2	1				* 2311 104E 3311 10918						
22	5	1	08.6	185	06	3	26	12	98	01	8	1012.4	10	128	26	26.0	24.5	2	2	4	6	0	3	2	2	13	27.5	-1.5	24	0	53	24	1	26	2	2	1										
22	5	1	08.0	188	12	2	36	09	98	02	0	1009.7	10	101	27	26.5	24.5	2	2	4	0	0	4	2	6	08	27.6	-1.1	24	0	52	24	1	30	2	2	1				3311	10818					
22	5	1	07.0	186	18	4	21	06	98	02	0	1012.3	10	127	27	26.5	24.0	2	2	4	0	5	4	4	2	17	27.6	-1.1	23	0	52	23	1	23	2	2	1				3311	10718					
22	5	1	06.4	188	23 00	6	20	07	98	02	1	1010.1	10	105	27	26.6	24.2	3	2	4	3	5	4	4	8	17	27.8	-1.2	23	0	52	23	1	18	2	2	1				* 204/3311 10618						
23	6	1	05.6	188	06	7	32	06	98	02	2	1012.9	10	133	25	25.0	23.5	5	2	4	3	2	3	2	2	15	27.2	-2.2	23	0	54	23	1	32	2	2	1										
23	6	1	05.0	185	12	8	18	09	98	02	8	1010.0	10	104	26	26.4	23.4	5	7	4	2	1	3	4	6	12	27.6	-1.2	22	0	52	22	1	18	2	1	1	13	4	4				3311	10518		
23	6	1	04.3	185	18	7	15	14	98	01	6	1012.4	10	128	27	26.4	23.9	3	7	4	2	0	4	4	2	14	27.4	-0.5	23	0	51	23	1	15	3	5	1				3311	10418					
23	6	1	03.8	185	23 00	6	13	16	98	02	2	1010.2	10	106	27	26.5	23.5	4	2	4	0	2	4	3	2	20	27.4	-0.9	22	0	52	22	1	13	3	5	1				* 220 TWB 3311 10318						
24	7	1	03.1	185	06	7	13	15	98	02	2	1013.2	10	136	26	26.2	23.9	7	8	4	0	0	4	3	1	14	27.2	-1.0	23	0	52	23	1	13	3	5	1										
24	7	1	02.6	185	12	6	13	14	98	02	2	1011.0	10	114	25	25.4	23.4	4	2	4	3	0	4	3	6	06	26.3	-0.9	23	0	52	23	1	13	3	5	1				3311	10218					
24	7	1	01.8	185	18	4	13	12	98	02	8	1012.1	10	134	26	26.0	24.0	4	2	4	0	0	0	0	2	15	25.8	0.2	23	0	00	23	1	13	3	4	1				3311	10118					
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44				
—	Y	Q	L <sub>0</sub> L <sub>1</sub> L <sub>2</sub>	L <sub>3</sub> L <sub>4</sub> L <sub>5</sub>	GG	N	dd	ff	VV	ww	W	—	—	PPP	TT	—	—	N <sub>h</sub>	C <sub>1</sub>	h	C <sub>2</sub>	C <sub>3</sub>	D <sub>s</sub>	v <sub>s</sub>	a	pp	—	—	—	0	T <sub>1</sub> T <sub>2</sub>	T <sub>3</sub> T <sub>4</sub>	1	d <sub>1</sub> d <sub>2</sub>	P <sub>1</sub>	H <sub>1</sub>	1	d <sub>3</sub> d <sub>4</sub>	P <sub>2</sub>	H <sub>2</sub>	—	—					



SHIP'S WEATHER OBSERVATIONS

NAME OF VESSEL <input type="checkbox"/> S/S <input type="checkbox"/> M/V	CALL SIGN
--	-----------

MAILING ADDRESS (*American addresses preferred*)

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

CHECK FORMS OR SUPPLIES REQUIRED

☐ SHIP'S WEATHER OBSERVATIONS, WB FORM 615-5  
☐ METEOROLOGICAL RADIOTELEGRAM, WB FORM 630-9  
☐ BAROGRAM, WB FORM 455-12

WEATHER MAP BASES

☐ N. ATLANTIC - U.S. INTERCOASTAL  
☐ N. PACIFIC - U.S. INTERCOASTAL  
☐ S. ATLANTIC - U.S. INTERCOASTAL  
☐ S. PACIFIC - INDIAN OCEAN  
☐ WEATHER SERVICE FOR MERCHANT SHIPPING  
☐ ENVELOPES

INSTRUMENTS IN NEED OF SERVICE

☐ BAROMETER      ☐ BAROGRAPH      ☐ PSYCHROMETER

DO NOT WRITE BELOW

RECEIVED (*Weather Bureau Office*)

\_\_\_\_\_

ACTION TAKEN (*Check one*)

☐ SUPPLIES FURNISHED AS MARKED X      ☐ ACKNOWLEDGED  
☐ ALL ACTION REFERRED TO CENTRAL OFFICE

DATE ACTION TAKEN

\_\_\_\_\_



NAME OF VESSEL S/S M/V					NAME OF CAPTAIN					WB FORM 615-5 (1-64)					U.S. DEPARTMENT OF COMMERCE WEATHER BUREAU					INSTRUCTIONS																							
COUNTRY OF REGISTRY					CALL SIGN WTDK					FROM					SHIP'S WEATHER OBSERVATIONS					1. Begin a new sheet: a. For the first observation of a new month. b. At the beginning of each voyage. c. Upon sailing from one ocean to another. d. Upon sailing from one ocean to another. 2. Fill in the blanks on each page of the form. (Name of vessel, barometer number, etc.) 3. Enter the coded synoptic (0000, 0600, 1200, 1800 G.C.T.) or special weather observations in columns 1 through 44.																							
MONTH June 1967					BAROMETER NO. 2114					TO					Check (✓) TEMPERATURES (COLS. 16-18, 28-30, 32-33): 4°C					°F																							
DAY OF MONTH (G.C.T.)	DAY OF WEEK	POSITION OF SHIP		TIME (Nearest hour 00-23) (G.C.T.)	TOTAL CLOUD AMT. (Coded) (0-9)	WIND		VISI-BILITY (Coded) (90-99)	WEATHER		PRESSURE		AIR TEMP. (Degrees and tenths)	TEMPERATURE		CLOUDS (Coded)				COURSE OF SHIP (0-9)	SPEED OF SHIP (0-9)	3-HOUR PRESSURE TENDENCY (0-9)	TEMPERATURE			DIFF. AIR-SEA (Coded)	DEW POINT (Coded)	WAVES (Make 2 entries if 2nd pattern observed)				REMARKS (Enter time of wind shifts, frontal passages, beginning and ending of precipitation, coded ice data, waves over 30½ ft., etc.)	CHECK (✓) IF SENT BY RADIO	INITIALS									
		OCT. ANT (0-3, 5-8)	LATITUDE (Degrees and tenths)			LONGITUDE (Degrees and tenths)	DI-RECTION (True) (00-36)		SPEED (True) (00-36)	PRES-ENT (Coded) (00-99)	PAST (Coded) (0-9)	CORREC-TION (in., mb., or mm.)		DATE COMPARED (mm.)	COODED Sea Level (mb.)	DRY BULB	WET BULB	AMOUNT OF LOW CLOUD	TYPE C <sub>L</sub> (0-9)				HEIGHT OF LOW CLOUD (0-9)	TYPE C <sub>M</sub> (0-9)	TYPE C <sub>H</sub> (0-9)			SEA WATER (Degrees and tenths)	DIFF. AIR-SEA (-if air colder than sea)	DEW POINT (Whole degrees)	INDICATOR				INDICATOR	DIRECTION (00-36)	PERIOD (Coded)	HEIGHT (Coded)	INDICATOR	DIRECTION (00-36)	PERIOD (Coded)	HEIGHT (Coded)	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44
—	Y	Q	L <sub>0</sub> L <sub>1</sub> L <sub>2</sub>	L <sub>0</sub> L <sub>1</sub> L <sub>2</sub>	GG	N	dd	ff	VV	ww	W	—	—	PPP	TT	—	—	N <sub>b</sub>	C <sub>L</sub>	h	C <sub>M</sub>	C <sub>H</sub>	D <sub>S</sub>	vs	a	pp	—	—	—	0	T <sub>S</sub> T <sub>S</sub>	T <sub>d</sub> T <sub>d</sub>	1	d <sub>w</sub> d <sub>w</sub>	P <sub>w</sub>	H <sub>w</sub>	1	d <sub>w</sub> d <sub>w</sub>	P <sub>w</sub>	H <sub>w</sub>	—	—	—
24	7	1	013	185	00	2	12	15	98	02	1	10103	10	107	25	25.4	23.2	2	2	4	0	0	4	4	7	17	25.8	-0.4	22	0	51	22	1	13	3	5	1						
25	1	1	006	185	06	6	0	14	98	03	1	10134	10	138	25	25.2	23.8	4	2	4	0	0	4	3	2	20	25.1	0.1	24	0	00	24	1	09	3	4	1						
25	1	1	001	185	12	7	9	14	95	15	2	10118	10	122	25	24.6	23.0	7	2	4	0	0	4	4	6	07	24.8	-0.2	22	0	00	22	1	10	3	4	1						
25	1	6	006	185	18	6	12	10	98	02	2	10138	10	142	25	25.4	23.4	6	8	5	0	0	4	4	1	07	24.8	0.6	23	0	01	23	1	13	3	3	1						
25	1	6	007	185	00	2	13	10	98	01	1	10107	10	111	25	25.3	23.3	2	2	4	0	0	4	2	7	21	25.2	0.1	23	0	00	23	1	13	3	4	1						
26	2	6	016	185	06	2	12	18	98	07	6	10137	10	131	25	25.0	23.5	2	2	4	0	0	4	3	1	10	25.4	-0.4	23	0	51	23	1	12	3	4	1						
26	2	6	023	184	12	2	13	19	98	02	0	10120	10	124	25	25.3	23.7	2	2	4	0	0	4	3	5	00	25.6	-0.3	23	0	51	23	1	12	3	4	1						
26	2	6	030	185	18	3	11	15	98	02	0	10137	10	141	26	26.0	24.4	3	2	4	0	0	4	4	1	07	25.6	0.4	24	0	01	24	1	12	3	4	1						
26	2	6	030	182	00	2	11	14	98	02	0	10109	10	113	26	26.4	24.0	2	1	4	0	0	2	4	7	17	25.6	0.8	23	0	02	23	1	12	3	4	1						
27	3	6	030	173	06	3	13	20	98	02	0	10128	10	132	25	25.4	23.2	3	2	4	0	0	2	4	1	10	25.7	-0.3	22	0	51	24	1	12	3	4	1						
27	3	6	030	165	12	7	13	17	98	03	1	10115	10	119	25	25.0	23.0	7	8	4	0	0	2	3	6	07	25.5	-0.5	22	0	51	22	1	12	3	5	1						
27	3	6	030	154	18	4	13	15	98	02	1	10144	10	145	25	25.0	23.4	4	8	4	0	0	0	3	1	10	25.3	-0.3	23	0	51	23	1	12	3	5	1						
27	3	6	030	146	00	1	14	17	98	01	1	10117	10	121	25	25.3	22.3	1	1	4	0	0	2	3	7	16	25.3	0.0	22	0	00	22	1	14	3	5	1						
28	4	6	030	137	06	1	13	16	98	02	0	10139	10	143	25	25.0	23.0	1	1	4	0	0	2	3	1	10	25.1	-0.1	22	0	00	22	1	13	3	5	1						
28	4	6	030	128	12	7	12	17	98	03	1	10124	10	128	24	23.7	23.0	7	8	4	0	0	2	3	5	02	25.1	-1.4	23	0	53	23	1	12	3	5	1						
28	4	6	030	118	18	3	13	19	98	02	1	10138	10	142	25	25.2	23.5	2	2	4	3	0	2	3	1	07	25.0	0.2	23	0	00	23	1	13	3	4	1						
29	5	6	027	118	00	2	14	15	98	02	0	10106	10	110	25	25.0	23.2	1	1	4	3	0	1	4	5	12	25.1	0.1	22	0	00	22	1	13	3	5	1						
29	5	6	017	115	06	2	13	18	98	02	0	10130	10	134	25	25.2	24.2	1	1	4	3	0	1	3	1	10	24.9	0.3	24	0	01	24	1	13	3	5	1						
29	5	6	013	115	12	4	12	15	98	02	0	10107	10	111	24	24.4	22.4	4	8	4	0	0	8	4	6	07	24.7	-0.3	22	0	51	22	1	13	3	5	1						
29	5	6	007	115	18	1	11	12	98	02	0	10124	10	128	25	25.0	23.4	1	2	4	0	0	8	4	1	09	24.1	0.9	23	0	02	23	1	12	3	4	1						
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44
—	Y	Q	L <sub>0</sub> L <sub>1</sub> L <sub>2</sub>	L <sub>0</sub> L <sub>1</sub> L <sub>2</sub>	GG	N	dd	ff	VV	ww	W	—	—	PPP	TT	—	—	N <sub>b</sub>	C <sub>L</sub>	h	C <sub>M</sub>	C <sub>H</sub>	D <sub>S</sub>	vs	a	pp	—	—	—	0	T <sub>S</sub> T <sub>S</sub>	T <sub>d</sub> T <sub>d</sub>	1	d <sub>w</sub> d <sub>w</sub>	P <sub>w</sub>	H <sub>w</sub>	1	d <sub>w</sub> d <sub>w</sub>	P <sub>w</sub>	H <sub>w</sub>	—	—	—



SHIP'S WEATHER OBSERVATIONS

NAME OF VESSEL

- ☐ S/S  
☐ M/V

CALL SIGN

MAILING ADDRESS (*American addresses preferred*)

CHECK FORMS OR SUPPLIES REQUIRED

- ☐ SHIP'S WEATHER OBSERVATIONS, WB FORM 615-5  
☐ METEOROLOGICAL RADIOTELEGRAM, WB FORM 630-9  
☐ BAROGRAM, WB FORM 455-12

WEATHER MAP BASES

- ☐ N. ATLANTIC - U.S. INTERCOASTAL  
☐ N. PACIFIC - U.S. INTERCOASTAL  
☐ S. ATLANTIC - U.S. INTERCOASTAL  
☐ S. PACIFIC - INDIAN OCEAN  
☐ WEATHER SERVICE FOR MERCHANT SHIPPING  
☐ ENVELOPES

INSTRUMENTS IN NEED OF SERVICE

- ☐ BAROMETER      ☐ BAROGRAPH      ☐ PSYCHROMETER

DO NOT WRITE BELOW

RECEIVED (*Weather Bureau Office*)

ACTION TAKEN (*Check one*)

- ☐ SUPPLIES FURNISHED AS MARKED X      ☐ ACKNOWLEDGED  
☐ ALL ACTION REFERRED TO CENTRAL OFFICE

DATE ACTION TAKEN

NAME OF VESSEL  

☐ S/S  
☐ M/V

COUNTRY OF REGISTRY

MONTH  
*June* 19 *67*

NAME OF CAPTAIN

CALL SIGN

BAROMETER NO.  
*2114*

WB FORM 615-5  
(1-64)

U.S. DEPARTMENT OF COMMERCE  
WEATHER BUREAU

SHIP'S WEATHER OBSERVATIONS

Check (✓)  
TEMPERATURES (COLS. 16-18, 28-30, 32-33):  

☒ °C ☐ °F

INSTRUCTIONS  

1. Begin a new sheet:  
a. For the first observation of a new month.  
b. At the beginning of each voyage.  
c. Upon sailing from one ocean to another.  
d. Upon sailing from one ocean to another.  
2. Fill in the blanks on each page of the form. (Name of vessel, barometer number, etc.)  
3. Enter the coded synoptic (0000, 0600, 1200, 1800 G.C.T.) or special weather observations in columns 1 through 44.

4. At end of each voyage, remove all forms with completed observations and mail in the postage-free envelopes provided.  
5. Radio transmission—Copy coded data for radio transmission from the unshaded numbered groups of columns. Each code group consists of five figures with a slant (/) indicating missing data. Omit code group 8 and 9 in message if no data are available.

Code the message in accordance with the "International Weather Code for Ships."

DAY OF MONTH (G.C.T.)	DAY OF WEEK	POSITION OF SHIP			TIME (Nearest hour 00-23) (G.C.T.)	TOTAL CLOUD AMT. (Coded) (0-9)	WIND		VISI-BILITY (Coded) (90-99)	WEATHER		PRESSURE		AIR TEMP. (Rounded)	TEMPERATURE		CLOUDS (Coded)				COURSE OF SHIP (1-9)	SPEED OF SHIP (1-9)	3-HOUR PRESSURE TENDENCY		TEMPERATURE			DIFF. AIR-SEA (Coded)	DEW POINT (Rounded)	WAVES (Make 2 entries if 2nd pattern observed)				REMARKS (Enter time of wind shifts, frontal passages, beginning and ending of precipitation, coded ice data, waves over 30½ ft., etc.)	CHECK (✓) IF SENT BY RADIO	INITIALS							
		OCT-ANT (0-3, 5-8)	LATITUDE (Degrees and tenths)	LONGI-TUDE (Degrees and tenths)			DI-REC-TION (True) (00-36)	SPEED (True-Knots) EST. MEAS ☐		PRES-ENT (Coded) (00-99)	PAST (Coded) (0-9)	CORREC-TION BAROME-TER AS READ (in., mb., or mm.)	DATE COMPARED BAROMETER CORRECTED (mb.)		CODED Sea Level (mb.)	DRY BULB (Degrees and tenths)	WET BULB (Degrees and tenths)	AMOUNT OF LOW CLOUD	TYPE C <sub>L</sub> (0-9)	HEIGHT OF LOW CLOUD			TYPE C <sub>M</sub> (0-9)	TYPE C <sub>H</sub> (0-9)	AMOUNT OF CHANGE (mb. and tenths)	SEA WATER (Degrees and tenths)	DIFF. AIR-SEA (-if air colder than sea)			DEW POINT (Whole degrees)	INDICATOR (00-36)	DIRECTION (Coded)	PERIOD (Coded)				HEIGHT (Coded)	INDICATOR (00-36)	DIRECTION (Coded)	PERIOD (Coded)	HEIGHT (Coded)		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44
—	Y	Q	L <sub>0</sub> L <sub>1</sub> L <sub>2</sub>	L <sub>0</sub> L <sub>1</sub> L <sub>2</sub>	GG	N	dd	ff	VV	ww	W	—	—	PPP	TT	—	—	N <sub>b</sub>	C <sub>L</sub>	h	C <sub>M</sub>	C <sub>H</sub>	D <sub>S</sub>	vs	a	pp	—	—	—	0	T <sub>S</sub> T <sub>s</sub>	T <sub>d</sub> T <sub>d</sub>	1	d <sub>w</sub> d <sub>w</sub>	P <sub>w</sub>	H <sub>w</sub>	1	d <sub>w</sub> d <sub>w</sub>	P <sub>w</sub>	H <sub>w</sub>	—	—	—
30	6	1	000	115	00	2	12	13	99	02	0	1009.0	10	094	25	25.0	23.5	0	0	9	0	2	3	6	15	25.0	0.0	23	0	00	23	1	12	3	4	1							
30	6	1	006	114	06	1	13	13	98	02	0	1011.5	10	119	25	24.5	23.5	0	0	9	0	2	8	21	10	24.1	+0.4	23	0	01	23	1	13	3	4	1							
30	6	1	011	115	12	5	13	14	98	03	0	1010.0	10	104	24	24.0	22.7	5	2	4	0	0	8	35	02	24.3	0.3	24	0	01	24	1	13	3	4	1							
30	6	1	021	115	18	3	13	14	98	02	1	102.0	10	124	25	24.8	23.0	3	2	4	0	0	8	40	02	24.5	0.3	22	0	01	22	1	13	3	4	1							
30	6	1	025	115	23	2	15	13	95	02	0	1009.0	10	094	25	25.0	23.6	2	2	4	5	0	8	46	20	24.6	0.4	23	0	01	23	1	15	3	4	1							
					06																								0			1											
					12																								0			1											
					18																								0			1											
					00																								0			1											
					06																								0			1											
					12																								0			1											
					18																								0			1											
					00																								0			1											
					06																								0			1											
					12																								0			1											
					18																								0			1											
					00																								0			1											
					06																								0			1											
					12																								0			1											
					18																								0			1											
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44
—	Y	Q	L <sub>0</sub> L <sub>1</sub> L <sub>2</sub>	L <sub>0</sub> L <sub>1</sub> L <sub>2</sub>	GG	N	dd	ff	VV	ww	W	—	—	PPP	TT	—	—	N <sub>b</sub>	C <sub>L</sub>	h	C <sub>M</sub>	C <sub>H</sub>	D <sub>S</sub>	vs	a	pp	—	—	—	0	T <sub>S</sub> T <sub>s</sub>	T <sub>d</sub> T <sub>d</sub>	1	d <sub>w</sub> d <sub>w</sub>	P <sub>w</sub>	H <sub>w</sub>	1	d <sub>w</sub> d <sub>w</sub>	P <sub>w</sub>	H <sub>w</sub>	—	—	—



WB FORM 615-5 (1-64)		U.S. DEPARTMENT OF COMMERCE WEATHER BUREAU	
SHIP'S WEATHER OBSERVATIONS			
NAME OF VESSEL <input type="checkbox"/> S/S <input type="checkbox"/> M/V		CALL SIGN	
MAILING ADDRESS ( <i>American addresses preferred</i> )      			
CHECK FORMS OR SUPPLIES REQUIRED  <input type="checkbox"/> SHIP'S WEATHER OBSERVATIONS, WB FORM 615-5 <input type="checkbox"/> METEOROLOGICAL RADIOTELEGRAM, WB FORM 630-9 <input type="checkbox"/> BAROGRAM, WB FORM 455-12  WEATHER MAP BASES <input type="checkbox"/> N. ATLANTIC - U.S. INTERCOASTAL <input type="checkbox"/> N. PACIFIC - U.S. INTERCOASTAL <input type="checkbox"/> S. ATLANTIC - U.S. INTERCOASTAL <input type="checkbox"/> S. PACIFIC - INDIAN OCEAN <input type="checkbox"/> WEATHER SERVICE FOR MERCHANT SHIPPING <input type="checkbox"/> ENVELOPES			
INSTRUMENTS IN NEED OF SERVICE  <input type="checkbox"/> BAROMETER <input type="checkbox"/> BAROGRAPH <input type="checkbox"/> PSYCHROMETER			
DO NOT WRITE BELOW			
RECEIVED ( <i>Weather Bureau Office</i> )   			
ACTION TAKEN ( <i>Check one</i> )  <input type="checkbox"/> SUPPLIES FURNISHED AS MARKED X <input type="checkbox"/> ACKNOWLEDGED <input type="checkbox"/> ALL ACTION REFERRED TO CENTRAL OFFICE			
DATE ACTION TAKEN			



NAME OF VESSEL  

☐ S/S  
☐ M/V

COUNTRY OF REGISTRY

MONTH  
*July* 19*67*

NAME OF CAPTAIN

CALL SIGN

BAROMETER NO.  
*2114*

WB FORM 615-5  
(1-64)

U.S. DEPARTMENT OF COMMERCE  
WEATHER BUREAU

SHIP'S WEATHER OBSERVATIONS

INSTRUCTIONS

1. Begin a new sheet:  
a. For the first observation of a new month.  
b. At the beginning of each voyage.  
c. Upon sailing from one ocean to another.  
d. Upon sailing from one ocean to another.

2. Fill in the blanks on each page of the form. (Name of vessel, barometer number, etc.)

3. Enter the coded synoptic (0000, 0600, 1200, 1800 G.C.T.) or special weather observations in columns 1 through 44.

4. At end of each voyage, remove all forms with completed observations and mail in the postage-free envelopes provided.

5. Radio transmission—Copy coded data for radio transmission from the unshaded numbered groups of columns. Each code group consists of five figures with a slant (/) indicating missing data. Omit code group 8 and 9 in message if no data are available.

TO

CHECK (✓)  
TEMPERATURES (COLS. 16-18, 28-30, 32-33): ☒ °C ☐ °F

DAY OF MONTH	DAY OF WEEK	POSITION OF SHIP			TIME (Nearest hour 00-23) (G.C.T.)	TOTAL CLOUD AMT. (Coded) (0-9)	WIND		VISIBILITY (Coded) (90-99)	WEATHER		PRESSURE		AIR TEMP. (Rounded)	TEMPERATURE		CLOUDS (Coded)				COURSE OF SHIP (0-9)	SPEED OF SHIP (0-9)	3-HOUR PRESSURE TENDENCY		TEMPERATURE			DIFF. AIR-SEA (Coded)	DEW POINT (Rounded)	WAVES (Make 2 entries if 2nd pattern observed)				REMARKS (Enter time of wind shifts, frontal passages, beginning and ending of precipitation, coded ice data, waves over 30½ ft., etc.)	CHECK (✓) IF SENT BY RADIO	INITIALS								
		OCT-ANT (0-3, 5-8)	LATITUDE (Degrees and tenths)	LONGITUDE (Degrees and tenths)			DIRECTION (True) (00-36)	SPEED (True knots) ES MEAS ☐ ☑		PRESENT (Coded) (00-99)	PAST (Coded) (0-9)	CORRECTION 10.4 BAROMETER AS READ (in., mb., or mm.)	DATE COMPARED 6-8-67 BAROMETER CORRECTED (mb.)		CODED Sea Level (mb.)	DRY BULB (Degrees and tenths)	WET BULB (Degrees and tenths)	AMOUNT OF LOW CLOUD	TYPE C <sub>L</sub> (0-9)	HEIGHT OF LOW CLOUD			TYPE C <sub>M</sub> (0-9)	TYPE C <sub>H</sub> (0-9)	SEA WATER (Degrees and tenths)	DIFF. AIR-SEA (-if air colder than sea)	DEW POINT (Whole degrees)			INDICATOR	DIRECTION (00-36)	PERIOD (Coded)	HEIGHT (Coded)				INDICATOR	DIRECTION (00-36)	PERIOD (Coded)	HEIGHT (Coded)				
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	
—	Y	Q	L <sub>1</sub> L <sub>2</sub> L <sub>3</sub>	L <sub>4</sub> L <sub>5</sub> L <sub>6</sub>	GG	N	dd	ff	VV	ww	W	—	—	PPP	TT	—	—	N <sub>b</sub>	C <sub>L</sub>	h	C <sub>M</sub>	C <sub>H</sub>	D <sub>S</sub>	V <sub>S</sub>	a	pp	—	—	—	0	T <sub>S</sub> T <sub>S</sub>	T <sub>d</sub> T <sub>d</sub>	1	d <sub>w</sub> d <sub>w</sub>	P <sub>w</sub>	H <sub>w</sub>	1	d <sub>w</sub> d <sub>w</sub>	P <sub>w</sub>	H <sub>w</sub>	—	—	—	
					00																								0			1				1								
1	7	1	035	117	06	6	16	08	98	02	1	1012.2	10	126	25	25.0	24.0	6	2	4	0	0	8	3	1	10	25.5	-0.5	24	0	51	24	1	16	3	4	1							
1	7	1	038	116	12	8	18	14	98	02	2	1010.2	10	106	25	25.0	23.4	8	8	4	1	1	8	4	6	06	25.7	-0.7	23	0	51	23	1	17	2	3	1							
1	7	1	049	116	18	3	17	10	98	02	1	1011.8	10	122	26	26.4	25.6	2	2	4	3	0	8	4	0	03	26.5	-0.1	25	0	00	25	1	17	2	3	1							
1	7	1	053	117	00	6	17	15	98	03	1	1009.4	10	098	27	27.0	25.0	6	8	4	0	0	8	3	6	10	27.0	0.0	24	0	00	24	1	17	2	3	1							
2	1	1	064	115	06	8	18	10	98	02	2	1012.4	10	124	27	26.5	25.0	8	8	4	1	1	8	3	1	10	27.2	-0.7	24	0	51	24	1	18	2	3	1							
2	1	1	070	116	12	8	19	12	97	01	8	1010.1	10	105	24	24.3	24.3	8	8	3	1	1	8	3	1	06	27.6	-3.3	24	0	51	24	1	19	2	3	1							
2	1	1	080	112	18	7	22	06	98	15	8	1012.1	10	125	27	27.1	26.1	4	2	4	6	2	8	3	1	05	27.5	-0.4	26	0	51	26	1	22	2	2	1							
3	2	1	084	113	00	8	20	08	97	01	8	1009.8	10	102	26	25.5	25.5	8	2	3	1	1	8	3	6	12	28.0	-2.5	26	0	55	26	1	21	2	2	1							
3	2	1	094	114	06	5	18	12	98	01	8	1011.5	10	114	26	25.7	24.7	5	2	4	0	0	8	3	0	00	27.8	-2.1	24	0	54	24	1	18	2	2	1							
3	2	1	099	115	12	5	24	11	98	02	1	1009.2	10	098	27	26.6	25.8	5	2	4	0	0	8	3	5	12	27.9	-1.3	26	0	53	26	1	22	2	2	1							
3	2	1	105	114	18	8	00	00	98	02	1	1011.4	10	118	27	27.4	24.2	2	2	4	1	1	8	3	1	10	28.1	-0.7	23	0	51	23	1	19	1	0	1	13	3	2				
3	2	1	113	114	00	6	17	12	98	02	2	1009.2	10	096	27	27.3	26.0	6	2	4	0	0	8	3	7	19	28.3	-1.0	26	0	52	26	1	17	2	2	1	13	3	2				
4	3	1	122	115	06	2	15	08	98	01	1	1011.3	10	112	27	27.0	25.7	2	2	4	0	0	8	3	1	10	28.2	-1.2	25	0	52	25	1	15	2	2	1							
4	3	1	125	112	12	1	16	08	98	02	0	1010.2	10	106	26	26.3	24.9	1	1	4	0	0	1	3	5	03	28.2	-1.9	25	0	54	25	1	16	2	2	1							
4	3	1	132	104	18	1	13	06	98	02	0	1012.4	10	128	28	27.8	25.8	1	1	4	0	5	1	3	2	12	28.1	-0.3	25	0	51	25	1	14	2	1	1							
4	3	1	134	103	00	3	17	06	98	25	8	1010.8	10	112	28	27.6	25.2	3	2	4	0	0	1	3	7	13	28.4	-0.8	24	0	52	24	1	16	2	2	1							
5	4	1	141	094	06	1	15	04	98	01	1	1013.5	10	139	27	26.5	25.4	1	1	4	0	0	1	3	2	12	28.1	-1.6	25	0	53	25	1	16	2	2	1							
5	4	1	143	092	12	1	10	06	98	02	0	1011.4	10	118	27	27.4	26.0	1	1	4	0	0	1	3	6	02	27.8	-0.4	26	0	51	26	1	12	2	1	1							
5	4	1	148	086	18	6	07	05	98	02	1	1014.0	10	144	28	28.4	27.8	2	1	4	0	8	1	4	1	09	28.7	-0.3	27	0	51	27	1	09	2	1	1	16	3	2				
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	
—	Y	Q	L <sub>1</sub> L <sub>2</sub> L <sub>3</sub>	L <sub>4</sub> L <sub>5</sub> L <sub>6</sub>	GG	N	dd	ff	VV	ww	W	—	—	PPP	TT	—	—	N <sub>b</sub>	C <sub>L</sub>	h	C <sub>M</sub>	C <sub>H</sub>	D <sub>S</sub>	V <sub>S</sub>	a	pp	—	—	—	0	T <sub>S</sub> T <sub>S</sub>	T <sub>d</sub> T <sub>d</sub>	1	d <sub>w</sub> d <sub>w</sub>	P <sub>w</sub>	H <sub>w</sub>	1	d <sub>w</sub> d <sub>w</sub>	P <sub>w</sub>	H <sub>w</sub>	—	—	—	



SHIP'S WEATHER OBSERVATIONS

NAME OF VESSEL

- ☐ S/S  
☐ M/V

CALL SIGN

MAILING ADDRESS (*American addresses preferred*)

CHECK FORMS OR SUPPLIES REQUIRED

- ☐ SHIP'S WEATHER OBSERVATIONS, WB FORM 615-5  
☐ METEOROLOGICAL RADIOTELEGRAM, WB FORM 630-9  
☐ BAROGRAM, WB FORM 455-12

WEATHER MAP BASES

- ☐ N. ATLANTIC - U.S. INTERCOASTAL  
☐ N. PACIFIC - U.S. INTERCOASTAL  
☐ S. ATLANTIC - U.S. INTERCOASTAL  
☐ S. PACIFIC - INDIAN OCEAN  
☐ WEATHER SERVICE FOR MERCHANT SHIPPING  
☐ ENVELOPES

INSTRUMENTS IN NEED OF SERVICE

- ☐ BAROMETER ☐ BAROGRAPH ☐ PSYCHROMETER

DO NOT WRITE BELOW

RECEIVED (*Weather Bureau Office*)

ACTION TAKEN (*Check one*)

- ☐ SUPPLIES FURNISHED AS MARKED X ☐ ACKNOWLEDGED  
☐ ALL ACTION REFERRED TO CENTRAL OFFICE

DATE ACTION TAKEN



[illegible]



SHIP'S WEATHER OBSERVATIONS

NAME OF VESSEL

- ☐ S/S  
☐ M/V

CALL SIGN

MAILING ADDRESS (*American addresses preferred*)

CHECK FORMS OR SUPPLIES REQUIRED

- ☐ SHIP'S WEATHER OBSERVATIONS, WB FORM 615-5  
☐ METEOROLOGICAL RADIOTELEGRAM, WB FORM 630-9  
☐ BAROGRAM, WB FORM 455-12

WEATHER MAP BASES

- ☐ N. ATLANTIC - U.S. INTERCOASTAL  
☐ N. PACIFIC - U.S. INTERCOASTAL  
☐ S. ATLANTIC - U.S. INTERCOASTAL  
☐ S. PACIFIC - INDIAN OCEAN  
☐ WEATHER SERVICE FOR MERCHANT SHIPPING  
☐ ENVELOPES

INSTRUMENTS IN NEED OF SERVICE

- ☐ BAROMETER      ☐ BAROGRAPH      ☐ PSYCHROMETER

DO NOT WRITE BELOW

RECEIVED (*Weather Bureau Office*)

ACTION TAKEN (*Check one*)

- ☐ SUPPLIES FURNISHED AS MARKED X      ☐ ACKNOWLEDGED  
☐ ALL ACTION REFERRED TO CENTRAL OFFICE

DATE ACTION TAKEN



NAME OF VESSEL <input type="checkbox"/> S/S <input type="checkbox"/> M/V					NAME OF CAPTAIN					WB FORM 615-5 (1-64)					U.S. DEPARTMENT OF COMMERCE WEATHER BUREAU					INSTRUCTIONS																							
COUNTRY OF REGISTRY					CALL SIGN					V O Y A G E					FROM					SHIP'S WEATHER OBSERVATIONS																							
MONTH					BAROMETER NO.					TO					Check (✓) TEMPERATURES (COLS. 16-18, 28-30, 32-33):					1. Begin a new sheet: a. For the first observation of a new month. b. At the beginning of each voyage. c. Upon sailing from one ocean to another. d. Upon sailing from one ocean to another. 2. Fill in the blanks on each page of the form. (Name of vessel, barometer number, etc.) 3. Enter the coded synoptic (0000, 0600, 1200, 1800 G.C.T.) or special weather observations in columns 1 through 44. 4. At end of each voyage, remove all forms with completed observations and mail in the postage-free envelopes provided. 5. Radio transmission—Copy coded data for radio transmission from the unshaded numbered groups of columns. Each code group consists of five figures with a slant (/) indicating missing data. Omit code group 8 and 9 in message if no data are available.																							
DAY OF MONTH (G.C.T.)	DAY OF WEEK	POSITION OF SHIP			TIME (Nearest hour 00-23) (G.C.T.)	TOTAL CLOUD AMT. (Coded) (0-9)	WIND		VISI- BILITY (Coded) (90-99)	WEATHER		PRESSURE		AIR TEMP. (Degrees and tenths)	TEMPERATURE		CLOUDS (Coded)				3-HOUR PRESSURE TENDENCY		TEMPERATURE			DIFF. AIR-SEA (Coded)	DEW POINT (Rounded)	WAVES (Make 2 entries if 2nd pattern observed)				REMARKS (Enter time of wind shifts, frontal passages, beginning and ending of precipitation, coded ice data, waves over 30½ ft., etc.)	CHECK (✓) IF SENT BY RADIO	INITIALS									
		OCT-ANT (0-3, 5-8)	LATITUDE (Degrees and tenths)	LONGITUDE (Degrees and tenths)			DI-REC-TION (True) (00-36)	SPEED (True) (00-36)		PRES-ENT (Coded) (00-99)	PAST (Coded) (00-99)	CORREC-TION (in., mb., or mm.)	DATE COMPARED (mb.)		DRY BULB	WET BULB	AMOUNT OF LOW CLOUD	TYPE C <sub>L</sub> (0-9)	HEIGHT OF LOW CLOUD	TYPE C <sub>M</sub> (0-9)	TYPE C <sub>H</sub> (0-9)	COURSE OF SHIP (0-9)	SPEED OF SHIP (0-9)	CHARACTERISTIC (0-9)	AMOUNT OF CHANGE (mb. and tenths)			SEA WATER (Degrees and tenths)	DIFF. AIR-SEA (-if air colder than sea)	DEW POINT (Whole degrees)	INDICATOR				SEA	SWELL							
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44
—	Y	Q	L <sub>1</sub> L <sub>2</sub> L <sub>3</sub>	L <sub>4</sub> L <sub>5</sub> L <sub>6</sub>	GG	N	dd	ff	VV	ww	W	—	—	PPP	TT	—	—	N <sub>b</sub>	C <sub>L</sub>	h	C <sub>M</sub>	C <sub>H</sub>	D <sub>S</sub>	vs	a	pp	—	—	—	0	T <sub>s</sub> T <sub>s</sub>	T <sub>d</sub> T <sub>d</sub>	1	d <sub>w</sub> d <sub>w</sub>	P <sub>w</sub>	H <sub>w</sub>	1	d <sub>w</sub> d <sub>w</sub>	P <sub>w</sub>	H <sub>w</sub>	—	—	—
12	4	1	128	037	00	8	07	12	95	80	8	1013.3	10	121	15	25.4	24.0	8	9	4	—	—	5	3	6	15	28.13	-2.9	24	0	56	24	1	07	2	2	1	20	5	4			
13	5	1	121	043	06	2	04	06	95	81	8	1015.0	10	134	26	26.2	23.8	2	1	4	—	—	0	5	3	1	03	28.13	-2.1	23	0	54	23	1	06	2	1	1					
13	5	1	115	043	12	6	04	03	98	87	1	1013.3	10	131	27	27.0	24.6	6	1	4	—	—	0	4	3	5	02	28.12	-1.2	24	0	53	24	1	04	2	1	1					
13	5	1	106	046	18	6	05	05	95	87	1	1013.3	10	131	31	31.0	27.2	4	1	—	—	—	2	4	8	10	28.14	2.16	26	0	55	26	1	04	2	1	1						
13	5	1	099	043	23	2	01	02	95	87	1	1011.0	10	114	25	27.5	25.8	1	2	4	—	—	1	4	3	7	17	28.18	-1.3	25	0	53	25	1	02	2	1	1	25	4	3		
14	6	1	089	046	06	1	02	04	95	87	0	1012.6	10	130	27	27.4	25.4	1	1	4	—	—	0	4	3	2	07	28.13	-0.9	25	0	52	25	1	05	2	1	1					
14	6	1	082	043	12	1	08	01	95	87	0	1011.6	10	120	27	27.3	25.0	1	1	4	—	—	0	4	3	5	02	28.13	-1.0	24	0	52	24	1	07	2	1	1					
14	6	1	073	043	18	1	08	01	95	87	0	1013.3	10	137	28	29.2	25.6	1	1	4	—	—	0	4	3	1	04	28.3	0.9	24	0	52	24	1	05	2	1	1	49	—	—		
14	6	1	069	043	23	3	15	06	95	87	0	1011.1	10	115	27	27.3	25.0	3	2	4	—	—	0	4	3	6	12	28.18	-1.5	24	0	53	24	1	15	2	1	1	—	—	—		
15	7	1	061	043	06	2	13	05	95	87	0	1013.0	10	134	26	26.0	24.0	2	1	4	—	—	0	4	3	1	10	27.7	-1.7	23	0	53	23	1	13	2	1	1	18	—	—		
15	7	1	054	043	12	3	16	08	95	87	0	1011.2	10	116	26	25.8	24.0	3	1	4	—	—	0	4	3	5	02	27.6	-1.8	23	0	54	23	1	16	2	2	1					
15	7	1	043	043	18	2	15	09	95	87	0	1013.2	10	136	26	26.0	24.0	3	2	4	—	—	1	4	3	4	00	27.4	-1.4	23	0	53	23	1	15	2	2	1					
15	7	1	043	043	23	8	14	12	97	80	8	1010.8	10	112	24	24.0	23.4	8	2	4	—	—	1	4	3	7	12	27.0	-3.0	23	0	56	23	1	15	2	4	1					
16	1	1	034	043	06	8	15	19	95	87	8	1013.2	10	136	24	23.8	22.3	4	2	4	—	—	1	4	3	2	10	26.3	-2.5	22	0	55	22	1	15	3	5	1					
16	1	1	038	043	12	5	13	18	95	87	8	1012.6	10	126	23	25.0	22.0	8	2	4	—	—	1	4	3	5	00	25.6	-0.6	21	0	51	21	1	13	3	5	1					
16	1	1	025	043	18	1	14	15	95	87	2	1014.2	10	146	23	25.0	21.2	7	8	4	—	—	1	4	3	0	06	25.9	-0.9	19	0	52	19	1	14	3	5	1					
16	1	1	017	046	23	6	14	15	95	87	2	1011.6	10	120	25	25.3	21.7	6	2	4	—	—	2	4	3	6	13	26.1	-0.8	20	0	52	20	1	14	3	5	1					
17	2	1	009	046	06	4	10	10	95	87	1	1015.0	10	154	23	23.2	21.0	4	8	4	—	—	1	4	3	0	14	25.3	-2.1	20	0	54	20	1	12	3	4	1					
17	2	1	003	046	12	2	11	13	95	87	0	1014.0	10	144	22	22.0	20.4	3	1	4	—	—	1	3	3	03	23.6	-1.6	20	0	53	20	1	12	2	3	1						
					18																																						
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44
—	Y	Q	L <sub>1</sub> L <sub>2</sub> L <sub>3</sub>	L <sub>4</sub> L <sub>5</sub> L <sub>6</sub>	GG	N	dd	ff	VV	ww	W	—	—	PPP	TT	—	—	N <sub>b</sub>	C <sub>L</sub>	h	C <sub>M</sub>	C <sub>H</sub>	D <sub>S</sub>	vs	a	pp	—	—	—	0	T <sub>s</sub> T <sub>s</sub>	T <sub>d</sub> T <sub>d</sub>	1	d <sub>w</sub> d <sub>w</sub>	P <sub>w</sub>	H <sub>w</sub>	1	d <sub>w</sub> d <sub>w</sub>	P <sub>w</sub>	H <sub>w</sub>	—	—	—



SHIP'S WEATHER OBSERVATIONS

NAME OF VESSEL <input type="checkbox"/> S/S <input type="checkbox"/> M/V	CALL SIGN
--	-----------

MAILING ADDRESS (*American addresses preferred*)

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

CHECK FORMS OR SUPPLIES REQUIRED

☐ SHIP'S WEATHER OBSERVATIONS, WB FORM 615-5  
☐ METEOROLOGICAL RADIOTELEGRAM, WB FORM 630-9  
☐ BAROGRAM, WB FORM 455-12

WEATHER MAP BASES

☐ N. ATLANTIC - U.S. INTERCOASTAL  
☐ N. PACIFIC - U.S. INTERCOASTAL  
☐ S. ATLANTIC - U.S. INTERCOASTAL  
☐ S. PACIFIC - INDIAN OCEAN  
☐ WEATHER SERVICE FOR MERCHANT SHIPPING  
☐ ENVELOPES

INSTRUMENTS IN NEED OF SERVICE

☐ BAROMETER      ☐ BAROGRAPH      ☐ PSYCHROMETER

DO NOT WRITE BELOW

RECEIVED (*Weather Bureau Office*)

ACTION TAKEN (*Check one*)

☐ SUPPLIES FURNISHED AS MARKED X      ☐ ACKNOWLEDGED  
☐ ALL ACTION REFERRED TO CENTRAL OFFICE

DATE ACTION TAKEN



NAME OF VESSEL  

☐ S/S  
☐ M/V

COUNTRY OF REGISTRY

MONTH  
19

NAME OF CAPTAIN

CALL SIGN

BAROMETER NO.

VOYAGE  
FROM  
TO

CHECK (✓)  
TEMPERATURES (COLS. 16-18, 28-30, 32-33):  
2°C    ☐ °F

WB FORM 615-5  
(1-64)

U.S. DEPARTMENT OF COMMERCE  
WEATHER BUREAU

SHIP'S WEATHER OBSERVATIONS

1. Begin a new sheet:  
a. For the first observation of a new month.  
b. At the beginning of each voyage.  
c. Upon sailing from one octant to another.  
d. Upon sailing from one ocean to another.  
2. Fill in the blanks on each page of the form. (Name of vessel, barometer number, etc.)  
3. Enter the coded synoptic (0000, 0600, 1200, 1800 G.C.T.) or special weather observations in columns 1 through 44.

INSTRUCTIONS  
Code the message in accordance with the "International Weather Code for Ships."  
4. At end of each voyage, remove all forms with completed observations and mail in the postage-free envelopes provided.  
5. Radio transmission—Copy coded data for radio transmission from the unshaded numbered groups of columns. Each code group consists of five figures with a slant (/) indicating missing data. Omit code group 8 and 9 in message if no data are available.

DAY OF MONTH (G.C.T.)	DAY OF WEEK	POSITION OF SHIP			TIME (Nearest hour 00-23) (G.C.T.)	TOTAL CLOUD AMT. (Coded) (0-9)	WIND		VISI-BILITY (Coded) (90-99)	WEATHER		PRESSURE		AIR TEMP. (Round-ed)	TEMPERA-TURE		CLOUDS (Coded)				COURSE OF SHIP (0-9)	SPEED OF SHIP (0-9)	3-HOUR PRESSURE TENDENCY		TEMPERATURE			INDICATOR (Coded)	DIFF. AIR-SEA (Round-ed)	DEW POINT (Round-ed)	WAVES (Make 2 entries if 2nd pattern observed)				REMARKS (Enter time of wind shifts, frontal passages, beginning and ending of precipitation, coded ice data, waves over 30½ ft., etc.)	CHECK (✓) IF SENT BY RADIO	INITIALS							
		OCT-AN-1 (0-3, 5-8)	LATITUDE (Degrees and tenths)	LONGI-TUDE (Degrees and tenths)			DI-REC-TION (True) (00-36)	SPEED (True-Knots) EST. <input type="checkbox"/> MEAS. <input type="checkbox"/>		PRES-ENT (Coded) (00-99)	PAST (Coded) (0-9)	CORREC-TION +0.4 BAROMETER AS READ (in., mb., or mm.)	DATE COMPARED 6/5/67 BAROMETER CORRECTED (mb.)		CORRECTION +0.4 BAROMETER AS READ (in., mb., or mm.)	DATE COMPARED 6/5/67 BAROMETER CORRECTED (mb.)	DRY BULB (Degrees and tenths)	WET BULB (Degrees and tenths)	AMOUNT OF LOW CLOUD	TYPE C <sub>L</sub> (0-9)			HEIGHT OF LOW CLOUD (0-9)	TYPE C <sub>M</sub> (0-9)	TYPE C <sub>H</sub> (0-9)	CHARACTERISTIC (0-9)	AMOUNT OF CHANGE (mb. and tenths)				SEA WATER (Degrees and tenths)	DIFF. AIR-SEA (-if air colder than sea) (Whole degrees)	DEW POINT (Whole degrees)	INDICATOR (00-36)				DIRECTION (Coded)	PERIOD (Coded)	HEIGHT (Coded)	INDICATOR (00-36)	DIRECTION (Coded)	PERIOD (Coded)	HEIGHT (Coded)
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	
—	Y	Q	L <sub>0</sub> L <sub>1</sub> L <sub>2</sub>	L <sub>0</sub> L <sub>1</sub> L <sub>2</sub>	GG	N	dd	ff	VV	ww	W	—	—	PPP	TT	—	—	N <sub>b</sub>	C <sub>L</sub>	h	C <sub>M</sub>	C <sub>H</sub>	D <sub>S</sub>	vs	a	pp	—	—	—	0	T <sub>S</sub> T <sub>S</sub>	T <sub>d</sub> T <sub>d</sub>	1	d <sub>w</sub> d <sub>w</sub>	P <sub>w</sub>	H <sub>w</sub>	1	d <sub>w</sub> d <sub>w</sub>	P <sub>w</sub>	H <sub>w</sub>	—	—	—	
					00																								0			1				1								
					06																								0			1				1								
					12																								0			1				1								
17	2	6	004	045	18	7	09	10	99	02	2	1015.9	10	162	24	24.2	21.7	7	8	4	0	0	4	3	0	02	21.7	21.5	20	0	05	20	1	09	2	3	1							
17	2	6	009	045	2300	3	08	11	96	02	1	1012.2	10	126	22	22.0	20.8	3	1	4	0	0	4	3	6	27	21.8	0.2	21	0	00	21	1	08	2	1	1	14	3	4				
18	3	6	017	046	06	1	13	05	98	02	0	1015.1	10	155	22	21.9	20.7	1	1	4	0	0	4	3	1	07	22.1	-0.2	20	0	00	20	1	14	2	3								
18	3	6	024	045	12	1	10	12	98	02	0	1013.2	10	136	22	22.0	20.3	1	1	4	0	0	4	3	3	03	22.2	-0.2	19	0	00	19	1	10	2	3								
18	3	6	033	045	18	1	11	12	98	02	0	1015.4	10	158	22	22.3	20.7	1	1	4	0	0	4	3	0	02	22.7	-0.4	20	0	51	20	1	11	2	3								
18	3	6	032	036	2300	2	13	13	98	02	0	1012.5	10	129	24	23.8	21.8	2	2	4	0	0	2	4	6	14	23.0	0.8	21	0	02	21	1	13	2	3								
19	4	6	031	028	06	6	12	11	98	03	1	1015.3	10	157	23	22.8	21.2	6	8	4	0	0	2	3	1	12	23.2	-0.4	20	0	51	20	1	12	2	2								
19	4	6	030	019	12	8	13	14	98	25	8	1012.9	10	133	23	22.7	21.0	8	8	4			2	4	5	02	23.2	-0.5	20	0	51	20	1	13	2	3								
19	4	6	030	013	18	8	12	12	98	02	8	1015.0	10	154	24	23.8	21.8	8	8	4			2	3	0	00	23.1	0.7	21	0	01	21	1	12	2	3								
19	4	6	029	005	2300	7	13	13	98	15	2	1012.0	10	124	22	22.2	21.2	7	8	4	0	0	2	3	6	15	22.9	-0.7	21	0	51	21	1	13	2	3								
20	5	6	026	995	06	8	12	11	98	02	2	1015.4	10	158	22	22.3	20.6	8	8	4			2	3	2	14	22.4	-0.1	20	0	00	20	1	13	2	3								
20	5	6	026	996	12	7	13	16	98	02	8	1013.6	10	140	22	21.5	20.0	7	8	4	0	0	2	3	5	00	21.9	-0.4	19	0	51	19	1	13	2	3								
20	5	6	027	976	18	2	13	14	98	01	1	1015.0	10	154	23	22.5	20.5	2	2	4	0	0	2	3	8	03	21.7	0.8	20	0	02	20	1	13	2	3								
20	5	6	029	976	2300	3	15	12	98	02	0	1012.6	10	130	23	22.7	20.5	3	8	4	0	0	0	0	6	10	21.8	0.9	20	0	02	20	1	15	2	3								
21	6	6	019	976	06	1	15	11	98	02	0	1014.8	10	152	21	21.1	20.0	1	1	4	0	0	1	3	2	03	21.1	0.0	20	0	00	20	1	15	3	4								
21	6	6	015	975	12	1	16	09	98	02	0	1013.2	10	136	21	21.0	20.0	1	1	5	0	0	1	2	6	03	20.8	0.2	20	0	00	20	1	15	2	3								
21	6	6	006	975	18	1	15	10	99	02	0	1015.0	10	154	22	22.4	20.4	1	1	5	0	0	8	3	8	08	20.7	1.7	19	0	03	19	1	15	3	4								
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	
—	Y	Q	L <sub>0</sub> L <sub>1</sub> L <sub>2</sub>	L <sub>0</sub> L <sub>1</sub> L <sub>2</sub>	GG	N	dd	ff	VV	ww	W	—	—	PPP	TT	—	—	N <sub>b</sub>	C <sub>L</sub>	h	C <sub>M</sub>	C <sub>H</sub>	D <sub>S</sub>	vs	a	pp	—	—	—	0	T <sub>S</sub> T <sub>S</sub>	T <sub>d</sub> T <sub>d</sub>	1	d <sub>w</sub> d <sub>w</sub>	P <sub>w</sub>	H <sub>w</sub>	1	d <sub>w</sub> d <sub>w</sub>	P <sub>w</sub>	H <sub>w</sub>	—	—	—	



SHIP'S WEATHER OBSERVATIONS

NAME OF VESSEL <input type="checkbox"/> S/S <input type="checkbox"/> M/V	CALL SIGN
--	-----------

MAILING ADDRESS (*American addresses preferred*)

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

CHECK FORMS OR SUPPLIES REQUIRED

☐ SHIP'S WEATHER OBSERVATIONS, WB FORM 615-5  
☐ METEOROLOGICAL RADIOTELEGRAM, WB FORM 630-9  
☐ BAROGRAM, WB FORM 455-12

WEATHER MAP BASES

☐ N. ATLANTIC - U.S. INTERCOASTAL  
☐ N. PACIFIC - U.S. INTERCOASTAL  
☐ S. ATLANTIC - U.S. INTERCOASTAL  
☐ S. PACIFIC - INDIAN OCEAN  
☐ WEATHER SERVICE FOR MERCHANT SHIPPING  
☐ ENVELOPES

INSTRUMENTS IN NEED OF SERVICE

☐ BAROMETER      ☐ BAROGRAPH      ☐ PSYCHROMETER

DO NOT WRITE BELOW

RECEIVED (*Weather Bureau Office*)

\_\_\_\_\_

ACTION TAKEN (*Check one*)

☐ SUPPLIES FURNISHED AS MARKED X      ☐ ACKNOWLEDGED  
☐ ALL ACTION REFERRED TO CENTRAL OFFICE

DATE ACTION TAKEN

\_\_\_\_\_



NAME OF VESSEL  

☐ S/S  
☐ M/V

COUNTRY OF REGISTRY

MONTH  
19 67

NAME OF CAPTAIN

CALL SIGN

BAROMETER NO.  
2114

WB FORM 615-5  
(1-64)

U.S. DEPARTMENT OF COMMERCE  
WEATHER BUREAU

SHIP'S WEATHER OBSERVATIONS

VOYAGE

FROM

TO

Check (✓)  
TEMPERATURES (COLS. 16-18, 28-30, 32-33):  

☐ °C  
☐ °F

INSTRUCTIONS

1. Begin a new sheet:  
a. For the first observation of a new month.  
b. At the beginning of each voyage.  
c. Upon sailing from one ocean to another.  
d. Upon sailing from one ocean to another.

2. Fill in the blanks on each page of the form. (Name of vessel, barometer number, etc.)

3. Enter the coded synoptic (0000, 0600, 1200, 1800 G.C.T.) or special weather observations in columns 1 through 44.

Code the message in accordance with the "International Weather Code for Ships."  
4. At end of each voyage, remove all forms with completed observations and mail in the postage-free envelopes provided.  
5. Radio transmission—Copy coded data for radio transmission from the unshaded numbered groups of columns. Each code group consists of five figures with a slant (/) indicating missing data. Omit code group 8 and 9 in message if no data are available.

DAY OF MONTH (G.C.T.)	DAY OF WEEK	POSITION OF SHIP			TIME (Nearest hour 00-23) (G.C.T.)	TOTAL CLOUD AMT. (Coded) (0-9)	WIND		VISI-BILITY (Coded) (90-99)	WEATHER		PRESSURE		AIR TEMP. (Rounded)	TEMPERA-TURE		CLOUDS (Coded)				COURSE OF SHIP (1-9)	SPEED OF SHIP (1-9)	3-HOUR PRESSURE TENDENCY		TEMPERATURE			DIFF. AIR-SEA (Coded)	DEW POINT (Rounded)	WAVES (Make 2 entries if 2nd pattern observed)				REMARKS (Enter time of wind shifts, frontal passages, beginning and ending of precipitation, coded ice data, waves over 30½ ft., etc.)	CHECK (✓) IF SENT BY RADIO	INITIALS								
		OCT-ANT (0-3, 5-8)	LATITUDE (Degrees and tenths)	LONGI-TUDE (Degrees and tenths)			DI-REC-TION (True) (00-36)	SPEED (True-knots) EST. <input type="checkbox"/> MEAS. <input type="checkbox"/>		PRES-ENT (Coded) (00-99)	PAST (Coded) (0-9)	CORREC-TION BAROMETER AS READ (in. mb. or mm.)	DATE COMPARED BAROMETER CORRECTED (mb.)		DRY BULB (Degrees and tenths)	WET BULB (Degrees and tenths)	AMOUNT OF LOW CLOUD	TYPE C <sub>L</sub> (0-9)	HEIGHT OF LOW CLOUD (Coded) (0-9)	TYPE C <sub>M</sub> (0-9)			TYPE C <sub>H</sub> (0-9)	AMOUNT OF CHANGE (mb. and tenths)	SEA WATER (Degrees and tenths)	DIFF. AIR-SEA (-if air colder than sea)	DEW POINT (Whole degrees)			INDICATOR (00-36) (Coded)	DIRECTION (Coded)	PERIOD (Coded)	HEIGHT (Coded)				INDICATOR (00-36) (Coded)	DIRECTION (Coded)	PERIOD (Coded)	HEIGHT (Coded)				
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	
—	Y	Q	L <sub>1</sub> L <sub>2</sub> L <sub>3</sub>	L <sub>4</sub> L <sub>5</sub> L <sub>6</sub>	GG	N	dd	ff	VV	ww	W	—	—	PPP	TT	—	—	N <sub>b</sub>	C <sub>L</sub>	h	C <sub>M</sub>	C <sub>H</sub>	D <sub>s</sub>	V <sub>s</sub>	a	pp	—	—	—	0	T <sub>s</sub> T <sub>s</sub>	T <sub>d</sub> T <sub>d</sub>	1	d <sub>w</sub> d <sub>w</sub>	P <sub>w</sub>	H <sub>w</sub>	1	d <sub>w</sub> d <sub>w</sub>	P <sub>w</sub>	H <sub>w</sub>	—	—	—	
21	6	1	000	975	23-00	3	16	10	98	02	0	1012.9	10	132	21	21.4	19.9	2	5	5	0	5	5	0	9	21.0	0.4	19	0	01	19	1	15	3	4	1								
22		1	007	975	06	6	15	09	98	13	1	1014.5	10	149	21	20.6	19.8	6	2	4	0	6	3	0	3	20.8	-0.2	20	0	00	20	1	15	2	3	1								
22		1	013	975	12	7	14	12	98	07	1	1012.8	10	132	22	21.6	19.6	7	8	4	0	6	3	4	00	22.5	-0.9	19	0	52	19	1	15	2	3	1								
22	7	1	071	975	18	7	15	12	98	12	2	1014.6	10	150	24	23.5	21.4	7	8	4	0	3	8	0	3	23.8	-0.3	21	0	51	21	1	15	—	—	1								
22		1	031	975	23-00	7	16	10	98	05	2	1011.7	10	131	23	23.0	20.0	7	5	4	0	3	6	1	3	23.8	-0.8	19	0	52	19	1	16	—	—	1								
23		1	038	975	06	7	15	07	98	02	2	1014.2	10	146	24	23.5	19.8	7	8	5	0	3	1	0	5	25.5	-2.0	18	0	54	18	1	16	2	—	1								
23		1	013	975	12	6	16	09	98	02	2	1011.6	10	129	24	24.0	20.6	6	5	4	0	3	5	0	3	25.8	-1.8	19	0	54	19	1	16	—	—	1								
23		1	051	975	18	8	17	10	98	02	2	1013.2	10	136	22	25.2	22.2	8	6	5	0	6	3	8	02	26.6	-1.4	21	0	53	21	1	17	2	3	1								
23		1	063	975	23-00	7	18	10	98	02	2	1010.6	10	110	26	26.2	23.0	7	8	5	0	6	3	6	14	26.5	-0.3	22	0	51	22	1	18	2	2	1								
24	7	1	061	974	06	7	18	08	98	07	2	1013.2	10	136	26	26.0	23.4	7	8	5	0	3	0	0	7	27.0	-1.0	23	0	52	23	1	18	2	2	1								
24		1	068	975	12	7	19	15	98	03	2	1011.3	10	119	26	25.8	23.5	7	8	5	0	3	9	00	27.0	-1.2	23	0	52	23	1	18	2	2	1									
24		1	058	975	18	7	18	08	98	03	2	1013.0	10	134	27	26.8	24.7	2	8	6	0	6	3	0	00	27.3	-0.5	24	0	51	24	1	19	2	—	1								
24	7	1	058	975	23-00	8	18	08	98	02	0	1010.6	10	110	28	28.0	24.8	2	8	5	0	0	0	7	15	28.0	0.0	24	0	00	24	1	18	—	—	1								
25	8	1	058	977	06	0	09	09	98	11	0	1012.0	10	124	27	27.4	24.4	7	0	9	0	7	2	0	7	28.2	-0.8	23	0	52	23	1	18	2	1	1								
25	8	1	074	975	12	2	12	10	98	13	0	1010.0	10	104	27	27.2	25.0	2	1	5	0	0	8	1	00	28.3	-1.1	24	0	52	24	1	18	2	2	1								
25	8	1	071	975	18	7	09	13	98	08	1	1011.8	10	127	29	29.1	26.4	2	1	5	0	0	7	04	28.3	0.8	26	0	52	26	1	18	2	—	1									
25		1	072	975	23-00	7	11	13	98	14	8	1009.7	10	101	28	28.0	26.0	2	2	5	0	0	7	03	28.4	-0.4	25	0	51	25	1	18	2	3	1									
26	9	1	052	975	06	1	06	08	98	01	7	1012.4	10	128	28	28.4	26.0	1	1	5	0	0	1	15	28.2	0.2	25	0	00	25	1	18	2	—	1									
26		1	052	975	12	1	05	10	98	02	0	1009.8	10	102	29	28.2	26.0	3	1	5	0	0	4	00	28.4	-0.2	25	0	00	25	1	18	2	—	1									
26		1	052	975	18	3	05	10	98	02	0	1012.0	10	124	32	31.7	28.4	3	2	5	0	0	1	09	28.8	2.9	27	0	01	27	1	18	2	—	1									
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	
—	Y	Q	L <sub>1</sub> L <sub>2</sub> L <sub>3</sub>	L <sub>4</sub> L <sub>5</sub> L <sub>6</sub>	GG	N	dd	ff	VV	ww	W	—	—	PPP	TT	—	—	N <sub>b</sub>	C <sub>L</sub>	h	C <sub>M</sub>	C <sub>H</sub>	D <sub>s</sub>	V <sub>s</sub>	a	pp	—	—	—	0	T <sub>s</sub> T <sub>s</sub>	T <sub>d</sub> T <sub>d</sub>	1	d <sub>w</sub> d <sub>w</sub>	P <sub>w</sub>	H <sub>w</sub>	1	d <sub>w</sub> d <sub>w</sub>	P <sub>w</sub>	H <sub>w</sub>	—	—	—	

SHIP'S WEATHER OBSERVATIONS

NAME OF VESSEL

- ☐ S/S  
☐ M/V

CALL SIGN

MAILING ADDRESS (*American addresses preferred*)

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

CHECK FORMS OR SUPPLIES REQUIRED

- ☐ SHIP'S WEATHER OBSERVATIONS, WB FORM 615-5  
☐ METEOROLOGICAL RADIOTELEGRAM, WB FORM 630-9  
☐ BAROGRAM, WB FORM 455-12

WEATHER MAP BASES

- ☐ N. ATLANTIC - U.S. INTERCOASTAL  
☐ N. PACIFIC - U.S. INTERCOASTAL  
☐ S. ATLANTIC - U.S. INTERCOASTAL  
☐ S. PACIFIC - INDIAN OCEAN  
☐ WEATHER SERVICE FOR MERCHANT SHIPPING  
☐ ENVELOPES

INSTRUMENTS IN NEED OF SERVICE

- ☐ BAROMETER      ☐ BAROGRAPH      ☐ PSYCHROMETER

DO NOT WRITE BELOW

RECEIVED (*Weather Bureau Office*)

ACTION TAKEN (*Check one*)

- ☐ SUPPLIES FURNISHED AS MARKED X      ☐ ACKNOWLEDGED  
☐ ALL ACTION REFERRED TO CENTRAL OFFICE

DATE ACTION TAKEN



NAME OF VESSEL  

☐ S/S  
☐ M/V

COUNTRY OF REGISTRY

MONTH  
1967

NAME OF CAPTAIN

FROM

TO

WB FORM 615-5  
(1-64)

U.S. DEPARTMENT OF COMMERCE  
WEATHER BUREAU

SHIP'S WEATHER OBSERVATIONS

Check (✓)  
TEMPERATURES (COLS. 16-18, 28-30, 32-33):  

☒ °C  
☐ °F

INSTRUCTIONS  
1. Begin a new sheet:  
a. For the first observation of a new month.  
b. At the beginning of each voyage.  
c. Upon sailing from one ocean to another.  
d. Upon sailing from one ocean to another.  
2. Fill in the blanks on each page of the form. (Name of vessel, barometer number, etc.)  
3. Enter the coded synoptic (0000, 0600, 1200, 1800 G.C.T.) or special weather observations in columns 1 through 44.  
4. At end of each voyage, remove all forms with completed observations and mail in the postage-free envelopes provided.  
5. Radio transmission—Copy coded data for radio transmission from the unshaded numbered groups of columns. Each code group consists of five figures with a slant (/) indicating missing data. Omit code group 8 and 9 in message if no data are available.

DAY OF MONTH (G.C.T.)	DAY OF WEEK	POSITION OF SHIP			TIME (Nearest hour 00-23) (G.C.T.)	TOTAL CLOUD AMT. (Coded) (0-9)	WIND		VISI-BILITY (Coded) (90-99)	WEATHER		PRESSURE		AIR TEMP. (Round-ed)	TEMPERA-TURE		CLOUDS (Coded)					3-HOUR PRESSURE TENDENCY		TEMPERATURE			DIFF. AIR-SEA (Coded)	DEW POINT (Round-ed)	WAVES (Make 2 entries if 2nd pattern observed)				REMARKS (Enter time of wind shifts, frontal passages, beginning and ending of precipitation, coded ice data, waves over 30½ ft., etc.)	CHECK (✓) IF SENT BY RADIO	INITIALS									
		OCT-ANT (0-3, 5-8)	LATITUDE (Degrees and tenths)	LONGI-TUDE (Degrees and tenths)			DI-REC-TION (True) (00-36)	SPEED (True-knots) EST. <input type="checkbox"/> MEAS <input type="checkbox"/>		PRES-ENT (Coded) (00-99)	PAST (Coded) (0-9)	CORREC-TION BAROMETER AS READ (in., mb. or mm.)	DATE COMPARED BAROMETER CORRECTED (mb.)		CORRECTED Sea Level (mb.)	DRY BULB (Degrees and tenths)	WET BULB (Degrees and tenths)	AMOUNT OF LOW CLOUD	TYPE C <sub>L</sub> (0-9)	HEIGHT OF LOW CLOUD	TYPE C <sub>M</sub> (0-9)	TYPE C <sub>H</sub> (0-9)	COURSE OF SHIP (1-9)	SPEED OF SHIP (1-9)	CHARACTERISTIC (0-9)	AMOUNT OF CHANGE (mb. and tenths)			SEA WATER (Degrees and tenths)	DIFF. AIR-SEA (-if air colder than sea) (Whole degrees)	DEW POINT (Whole degrees)	INDICATOR (00-36) (Coded)				DIRECTION (Coded)	PERIOD (Coded)	HEIGHT (Coded)						
																																							INDICATOR	INDICATOR	INDICATOR	INDICATOR		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	
—	Y	Q	L <sub>0</sub> L <sub>1</sub> L <sub>2</sub>	L <sub>0</sub> L <sub>1</sub> L <sub>2</sub>	GG	N	dd	ff	VV	ww	W	—	—	PPP	TT	—	—	N <sub>b</sub>	C <sub>L</sub>	h	C <sub>M</sub>	C <sub>H</sub>	D <sub>S</sub>	vs	a	pp	—	—	—	0	T <sub>S</sub> T <sub>S</sub>	T <sub>d</sub> T <sub>d</sub>	1	d <sub>w</sub> d <sub>w</sub>	P <sub>w</sub>	H <sub>w</sub>	1	d <sub>w</sub> d <sub>w</sub>	P <sub>w</sub>	H <sub>w</sub>	—	—	—	
31	7	1	25	132	00	2	2	12	15	0	0	1014.0	10	14.0	22	22.0	20.2	1	9	—	6	7	4	7	16	22.2	-0.2	19	0	00	19	1	27	2	2	1	—	—	—	—	—	—	—	
1	3	1	26	135	06	0	27	12	15	0	0	1015.4	10	15.4	18	18.2	17.4	0	0	—	0	7	4	1	10	17.4	0.8	17	0	02	17	1	27	2	2	1	—	—	—	—	—	—	—	
1	3	1	27	140	12	3	27	03	15	0	0	1015.3	10	15.3	19	19.0	18.3	0	0	—	0	7	4	3	03	18.9	0.1	18	0	00	18	1	27	2	1	1	—	—	—	—	—	—	—	
1	3	1	28	144	18	4	13	04	15	0	0	1017.8	10	17.8	20	19.6	18.2	0	0	4	/	7	4	2	10	19.9	-0.3	17	0	51	17	1	00	/	2	1	27	2	1	—	—	—		
1	3	1	29	148	00	4	25	05	15	0	0	1015.3	10	15.3	20	19.8	18.3	0	0	4	5	7	4	8	13	19.8	0.0	18	0	00	08	1	29	2	1	1	—	—	—	—	—	—		
2	1	1	30	152	06	3	30	06	15	0	0	1016.1	10	16.1	18	18.1	16.7	0	0	—	0	8	4	0	17	19.5	-1.4	16	0	53	16	1	31	2	1	1	—	—	—	—	—	—		
2	1	1	30	154	12	8	37	08	15	0	0	1015.6	10	15.6	17	17.2	16.0	0	0	—	/	8	4	6	08	19.0	-1.8	15	0	54	15	1	32	2	1	1	—	—	—	—	—	—		
2	1	1	31	155	18	8	30	07	15	0	0	1015.0	10	15.0	20	18.7	18.7	0	0	4	/	4	4	0	0	20.6	-0.3	18	0	51	18	1	30	2	1	1	—	—	—	—	—	—		
2	1	1			00																																							
					06																																							
					12																																							
					18																																							
					00																																							
					06																																							
					12																																							
					18																																							
					00																																							
					06																																							
					12																																							
					18																																							
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	
—	Y	Q	L <sub>0</sub> L <sub>1</sub> L <sub>2</sub>	L <sub>0</sub> L <sub>1</sub> L <sub>2</sub>	GG	N	dd	ff	VV	ww	W	—	—	PPP	TT	—	—	N <sub>b</sub>	C <sub>L</sub>	h	C <sub>M</sub>	C <sub>H</sub>	D <sub>S</sub>	vs	a	pp	—	—	—	0	T <sub>S</sub> T <sub>S</sub>	T <sub>d</sub> T <sub>d</sub>	1	d <sub>w</sub> d <sub>w</sub>	P <sub>w</sub>	H <sub>w</sub>	1	d <sub>w</sub> d <sub>w</sub>	P <sub>w</sub>	H <sub>w</sub>	—	—	—	



SHIP'S WEATHER OBSERVATIONS

NAME OF VESSEL <input type="checkbox"/> S/S <input type="checkbox"/> M/V	CALL SIGN
--	-----------

MAILING ADDRESS (*American addresses preferred*)

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

CHECK FORMS OR SUPPLIES REQUIRED

☐ SHIP'S WEATHER OBSERVATIONS, WB FORM 615-5  
☐ METEOROLOGICAL RADIOTELEGRAM, WB FORM 630-9  
☐ BAROGRAM, WB FORM 455-12

WEATHER MAP BASES

☐ N. ATLANTIC - U.S. INTERCOASTAL  
☐ N. PACIFIC - U.S. INTERCOASTAL  
☐ S. ATLANTIC - U.S. INTERCOASTAL  
☐ S. PACIFIC - INDIAN OCEAN  
☐ WEATHER SERVICE FOR MERCHANT SHIPPING  
☐ ENVELOPES

INSTRUMENTS IN NEED OF SERVICE

☐ BAROMETER      ☐ BAROGRAPH      ☐ PSYCHROMETER

DO NOT WRITE BELOW

RECEIVED (*Weather Bureau Office*)

ACTION TAKEN (*Check one*)

☐ SUPPLIES FURNISHED AS MARKED X      ☐ ACKNOWLEDGED  
☐ ALL ACTION REFERRED TO CENTRAL OFFICE

DATE ACTION TAKEN



NAME OF VESSEL <div><input type="checkbox"/> S/S <input type="checkbox"/> M/V</div>		NAME OF CAPTAIN		WB FORM 615-5 (1-64)		U.S. DEPARTMENT OF COMMERCE WEATHER BUREAU	
COUNTRY OF REGISTRY		CALL SIGN		FROM		SHIP'S WEATHER OBSERVATIONS	
MONTH Aug 1967		BAROMETER NO. 2114		TO		Check (✓) TEMPERATURES (COLS. 16-18, 28-30, 32-33): <div><input checked="" type="checkbox"/> °C <input type="checkbox"/> °F</div>	

- INSTRUCTIONS**
- Begin a new sheet:
    - For the first observation of a new month.
    - At the beginning of each voyage.
    - Upon sailing from one ocean to another.
    - Upon sailing from one ocean to another.
  - Fill in the blanks on each page of the form. (Name of vessel, barometer number, etc.)
  - Enter the coded synoptic (0000, 0600, 1200, 1800 G.C.T.) or special weather observations in columns 1 through 44.
- Code the message in accordance with the "International Weather Code for Ships."
- At end of each voyage, remove all forms with completed observations and mail in the postage-free envelopes provided.
  - Radio transmission**—Copy coded data for radio transmission from the unshaded numbered groups of columns. Each code group consists of five figures with a slant (/) indicating missing data. Omit code group 8 and 9 in message if no data are available.

DAY OF MONTH (G.C.T.)	DAY OF WEEK	POSITION OF SHIP		TIME (Nearest hour 00-23) (G.C.T.)	TOTAL CLOUD AMT. (Coded) (0-9)	WIND		VISI-BILITY (Coded) (90-99)	WEATHER		PRESSURE		AIR TEMP. (Rounded)	TEMPERA-TURE		CLOUDS (Coded)				COURSE OF SHIP (0-9)	SPEED OF SHIP (0-9)	3-HOUR PRESSURE TENDENCY (0-9)	TEMPERATURE			DIFF. AIR-SEA (Coded)	DEW POINT (Rounded)	WAVES (Make 2 entries if 2nd pattern observed)				REMARKS (Enter time of wind shifts, frontal passages, beginning and ending of precipitation, coded ice data, waves over 30½ ft., etc.)	CHECK (✓) IF SENT BY RADIO	INITIALS									
		OCT. ANT (0-3, 5-8)	LATITUDE (Degrees and tenths)			LONGI-TUDE	DI-REC-TION (True) (00-36)		SPEED (True-Knots) EST. MEAS.	PRES-ENT (Coded) (00-99)	PAST (Coded) (0-9)	CORREC-TION 10.4		DATE COMPARED 6-8 67	BAROMETER AS READ (in., mb., or mm.)	BAROMETER CORRECTED (mb.)	CODED Sea Level (mb.)	DRY BULB (Degrees and tenths)	WET BULB				AMOUNT OF LOW CLOUD	TYPE C <sub>L</sub> (0-9)	HEIGHT OF LOW CLOUD			TYPE C <sub>H</sub> (0-9)	TYPE C <sub>M</sub> (0-9)	SEA WATER (Degrees and tenths)	DIFF. AIR-SEA (-if air colder than sea)				DEW POINT (Whole degrees)	INDICATOR	SEA	SWELL					
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44
—	Y	Q	L <sub>0</sub> L <sub>1</sub> L <sub>2</sub>	L <sub>0</sub> L <sub>1</sub> L <sub>2</sub>	GG	N	dd	ff	VV	ww	W	—	—	PPP	TT	—	—	N <sub>b</sub>	C <sub>L</sub>	h	C <sub>M</sub>	C <sub>H</sub>	D <sub>s</sub>	vs	a	pp	—	—	—	0	T <sub>s</sub> T <sub>s</sub>	T <sub>d</sub> T <sub>d</sub>	1	d <sub>w</sub> d <sub>w</sub>	P <sub>w</sub>	H <sub>w</sub>	1	d <sub>w</sub> d <sub>w</sub>	P <sub>w</sub>	H <sub>w</sub>	—	—	—
26	1	1	138	975	23 00	3	09	08	98	0	0	1009.8	10	102	29	29.2	26.4	1	1	5	6	8	3	7	12	29.2	0.0	26	0	00	26	1	07	2	2	1							
27	1	1	147	975	06	1	34	06	98	0	0	1012.16	10	130	29	29.0	27.0	1	1	5	0	8	3	1	14	29.6	-0.6	26	0	51	26	1	01	2	1	1							
27	1	1	154	975	12	1	30	12	98	0	0	1010.3	10	120	29	28.5	27.0	1	1	5	0	8	3	4	00	29.1	-0.6	27	0	51	27	1	32	2	2	1							
27	1	1	159	980	18	3	26	05	98	00	0	1011.4	10	118	30	30.2	27.0	1	2	5	6	7	4	1	02	29.9	0.1	26	0	00	26	1	26	2	2	1							
27	1	1	162	988	23 00	3	24	07	98	0	0	1010.0	10	111	31	31.0	26.2	1	3	5	5	7	4	7	10	30.8	0.2	24	0	00	24	1	26	2	1	1							
28	1	1	167	999	06	1	10	04	98	12	0	1014.0	10	144	29	29.2	26.7	1	3	5	0	7	4	2	17	29.3	0.1	26	0	00	26	1	49	1	0	1							
28	1	1	171	009	12	1	02	06	98	17	0	1010.5	10	139	28	28.2	26.0	1	1	5	0	1	6	08	29.5	-1.3	25	0	53	25	1	49	1	1	1								
28	1	1	172	020	18	3	19	01	98	02	0	1013.0	10	134	30	30.0	27.0	1	1	5	2	7	4	4	00	30.0	0.0	26	0	00	26	1	49	1	1	1							
28	1	1	180	031	23 00	5	06	06	98	01	0	1010.2	10	106	29	29.7	27.0	1	9	5	2	7	4	7	20	30.0	0.3	26	0	51	26	1	09	1	2	1							
29	7	1	186	040	06	3	03	03	98	02	0	1010.3	10	111	28	28.8	25.6	1	1	5	0	7	4	1	10	30.0	-1.2	24	0	52	24	1	49	1	1	1							
29	7	1	189	049	12	1	04	02	98	03	0	1012.2	10	121	28	27.8	26.0	1	1	5	0	7	4	3	07	29.6	-1.8	25	0	54	25	1	49	1	1	1							
29	7	1	198	052	18	3	14	05	98	02	0	1014.0	10	128	30	29.7	26.7	3	1	5	6	7	4	1	08	29.3	0.4	26	0	51	26	1	49	1	1	1							
29	7	1	204	065	23 00	2	23	06	98	01	0	1011.1	10	115	29	29.3	27.3	1	1	5	5	7	4	7	17	29.7	-0.4	27	0	51	27	1	25	2	1	1							
30	1	1	211	075	06	1	26	07	98	13	0	1012.9	10	120	28	27.6	25.8	1	1	5	1	7	4	2	07	29.2	-1.6	25	0	53	25	1	77	2	1	1							
30	1	1	217	080	12	2	20	06	98	01	0	1011.7	10	111	27	26.5	24.7	1	1	5	1	7	4	5	04	28.5	-2.0	24	0	54	24	1	10	2	1	1	27	2	2				
30	1	1	220	079	18	7	20	05	98	02	0	1013.7	10	111	24	24.8	23.3	7	8	5	1	7	4	0	02	26.4	-1.6	23	0	53	23	1	20	2	1	1	30	3					
30	1	1	225	078	00	2	26	14	98	01	0	1011.0	10	101	24	24.5	23.0	1	1	5	0	6	4	7	22	26.1	-1.6	22	0	53	22	1	27	2	2	1							
31	2	1			06	1	27	06	98	02	0	1013.3	10	107	23	22.7	21.1	1	1	5	0	7	4	2	07	25.4	-2.7	20	0	50	20	1	27	2	1	1							
31	2	1	245	086	12		07	07	98	02	0	1012.6	10	100	25	21.5	20.5	1	5	6	0	7	4	5	00	25.1	-3.9	20	0	48	20	1	27	2	1	1							
31	2	1	249	081	18	3	27	05	98	01	0	1015.5	10	107	22	21.7	20.2	3	5	4	0	7	4	6	0	22.2	-0.5	19	0	51	19	1	27	2	1	1							
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44
—	Y	Q	L <sub>0</sub> L <sub>1</sub> L <sub>2</sub>	L <sub>0</sub> L <sub>1</sub> L <sub>2</sub>	GG	N	dd	ff	VV	ww	W	—	—	PPP	TT	—	—	N <sub>b</sub>	C <sub>L</sub>	h	C <sub>M</sub>	C <sub>H</sub>	D <sub>s</sub>	vs	a	pp	—	—	—	0	T <sub>s</sub> T <sub>s</sub>	T <sub>d</sub> T <sub>d</sub>	1	d <sub>w</sub> d <sub>w</sub>	P <sub>w</sub>	H <sub>w</sub>	1	d <sub>w</sub> d <sub>w</sub>	P <sub>w</sub>	H <sub>w</sub>	—	—	—

WB FORM 615-5 (1-64)		U.S. DEPARTMENT OF COMMERCE WEATHER BUREAU	
SHIP'S WEATHER OBSERVATIONS			
NAME OF VESSEL <input type="checkbox"/> S/S <input type="checkbox"/> M/V		CALL SIGN	
MAILING ADDRESS ( <i>American addresses preferred</i> )      			
CHECK FORMS OR SUPPLIES REQUIRED  <input type="checkbox"/> SHIP'S WEATHER OBSERVATIONS, WB FORM 615-5 <input type="checkbox"/> METEOROLOGICAL RADIOTELEGRAM, WB FORM 630-9 <input type="checkbox"/> BAROGRAM, WB FORM 455-12 WEATHER MAP BASES <input type="checkbox"/> N. ATLANTIC - U.S. INTERCOASTAL <input type="checkbox"/> N. PACIFIC - U.S. INTERCOASTAL <input type="checkbox"/> S. ATLANTIC - U.S. INTERCOASTAL <input type="checkbox"/> S. PACIFIC - INDIAN OCEAN <input type="checkbox"/> WEATHER SERVICE FOR MERCHANT SHIPPING <input type="checkbox"/> ENVELOPES			
INSTRUMENTS IN NEED OF SERVICE  <input type="checkbox"/> BAROMETER <input type="checkbox"/> BAROGRAPH <input type="checkbox"/> PSYCHROMETER			
DO NOT WRITE BELOW			
RECEIVED ( <i>Weather Bureau Office</i> )   			
ACTION TAKEN ( <i>Check one</i> )  <input type="checkbox"/> SUPPLIES FURNISHED AS MARKED X <input type="checkbox"/> ACKNOWLEDGED <input type="checkbox"/> ALL ACTION REFERRED TO CENTRAL OFFICE			
DATE ACTION TAKEN			